# hardcore

# BRITISH·APPLE·SYSTEMS·USER·GROUP
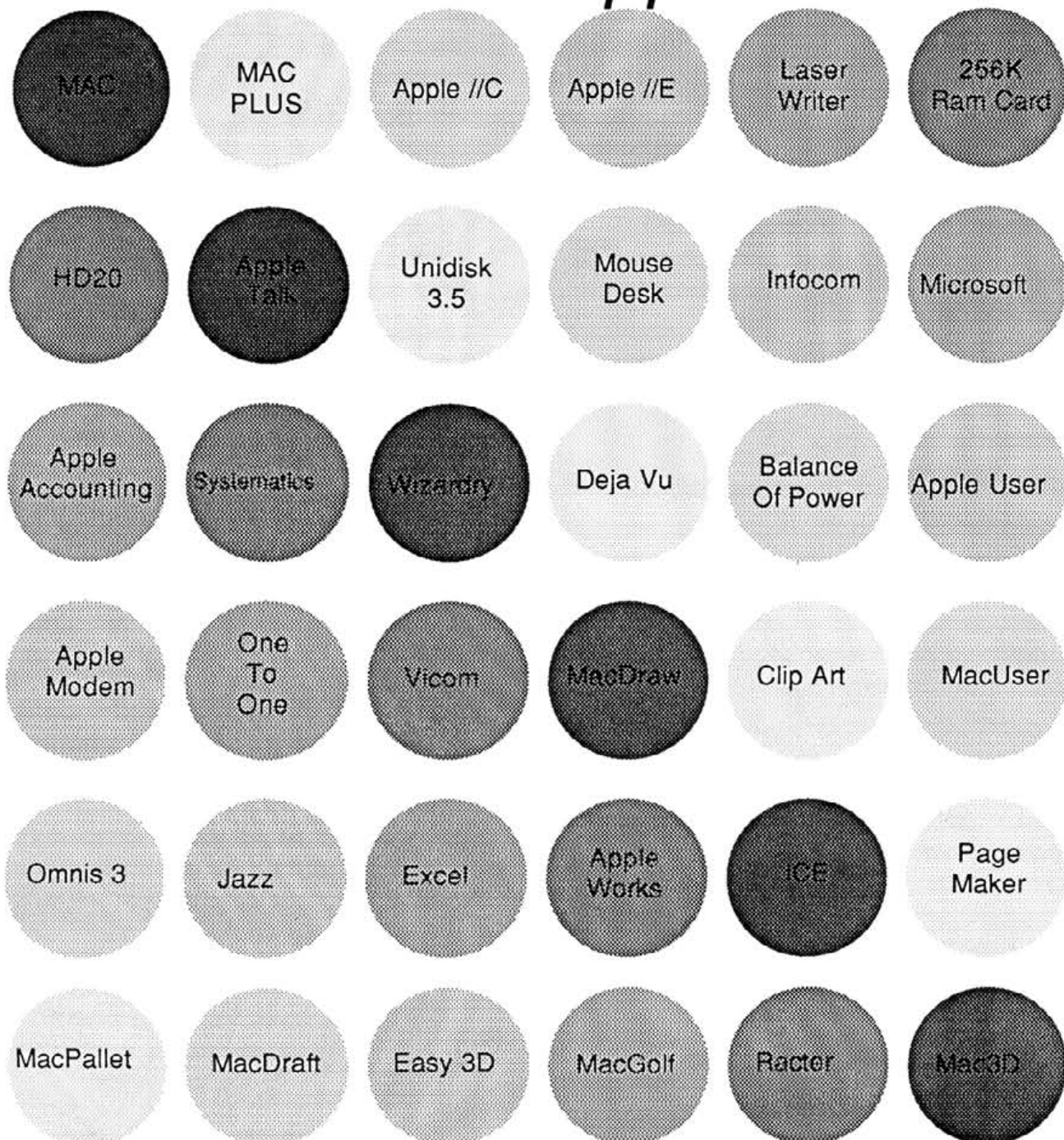
Founder members of the
Association of Computer Clubs

Copy for this issue was prepared on a Mac using PageMaker. The art work was printed on a Laserwriter. Thanks to AMP for use of the Laserwriter. Celtip for help with PageMaker.

Front Cover and Hardcore Logo designed and prepared by Stefan Mucha

# This issue packed with articles for all Apple Users
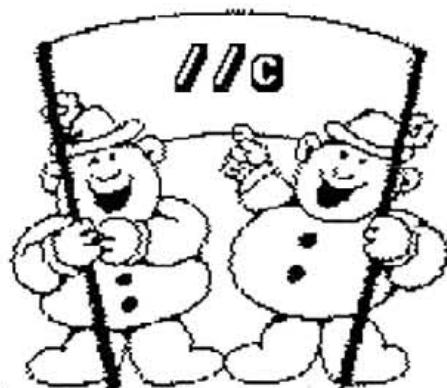
## NEWS FROM  apple®

## Apple /// News

## ™Mac Chat - all the latest on the Mac World

**Articles on all aspects of Apple Computing including Telecomunications, Programming, Hardware and Software.**

# CONTENTS

## ADVERTISERS

# EDITORIAL

Well at the third attempt, Hardcore is starting to look the way I feel members want it. Plenty of nice juicy articles with things to do and lots of news.

Apple have arranged for us to get all the latest news from the company and they have also loaned a MacPlus for evaluation.

We had a representative at the Apple University Consortium Meeting in Cambridge during the last week of March and you will be able to read a full report on this major Apple event in the next Hardcore.

Anyway back to this issue - the response from members is getting better and to all those that have enqired about writing or have sent articles in thanks.

We have some good offers this issue - read the letters page re an unbeatable offer from Inmac and you will also see our special offer of equipment from Pace. This offer represents outstanding savings and I hope that this is just the start of this type of exclusive offer to the membership. Please support us so that we can negotiate further deals.

The advertisers in Hardcore help make the journal a success and therefore I would ask that you support them so that they can continue to support us. I also would like to thank A.M.P. Eltham for the loan at short notice of a very hard to find 800K Mac Drive.

I would like to start a series on the dealers that you use. If you have a dealer that is helpful and you could recommend to others write and let us know. Please include some reasons - may be we can have a User Friendly Dealer award each year!

I enjoyed myself at Apple Show 86 and was glad to get all those remarks about your journal - If you have any helpful tips on how we can improve the layout please let me know.

Well the AGM will be on us soon I hope to see you all there and I look forward to the presentation I will be doing on PageMaker - you may get a sneek preview of some of the next Hardcore !

This should arrive before Easter, if it does have a nice one - if it does not I hope you had a nice one.

Bye for now ---

*Jim Panks*

Jim Panks.

# SPECIAL OFFER TO ALL MEMBERS

# WE ARE NOW OFFERING FREE FORCE MEMBERSHIP TO ALL MEMBERS

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RS232 serial and 8-bit parallel interface card. Through software control of the baud-rate, the serial port will allow true split-baud rates. The parallel port allows the use of the optional Nightingale autodial/autoanswer board. It can be used by itself as a parallel printer interface, with suitable software.

**Teletext Palette**

Gives a genuine full colour viewdata display on an RGB monitor. It soft-switches the Apple black and white display and is fully supported by Data Highway. It comes with a Utility disc allowing full colour displays from ordinary Basic, as well as frame editing and carousel display of stored frames.

**Data Highway V2.0**

A truly comprehensive communications package. It will allow full access of all information services from BABBS to the Force and to Prestel. Apart from the normal black and white Prestel display, Prestel can be displayed in full viewdata colour using the Palette card. With an extended //e or a //c, Data Highway will give a full eight colour display on a normal television set. For further information on the program, see the review in this issue of Hardcore.

**Please Note:**

The Nightingale/Data Highway combination is suitable for the //c.
Data Highway alone, can be used with the //c, an Apple Super Serial card, a CCS7710A serial card or of course with either the Mastercard I or Mastercard II. It can be used with any modem, and with Hayes compatible modems. It also fully supports the optional Nightingale accessory board.

Any of the other packages are suitable for the Apple ][, the Apple ][+ or the Apple //e.

| | |
|---|---|
| 1) NIGHTINGALE/DATA HIGHWAY COMBINATION | £119 + VAT |
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| 3) NIGHTINGALE/DATA HIGHWAY/MASTERCARD/PRESTEL COLOUR PALETTE COMBINATION | £199 + VAT |
| 4) DATA HIGHWAY ONLY | £49 + VAT |
| 5) CABLE NIGHTINGALE TO APPLE //c | £5 + VAT |

We have again been able to offer substantial benefits for members of the group - the special offers on communictions packages together with free membership of the BASUG section of BT Gold [The Force] now allows many more members to get into communications.

The news gets better by the month and we hope that we will be in a position to obtain more exceptional deals for our members.

If you wish to partake in the special deals please complete the enclosed order form.

The Force Membership offer saves you £20.00 - whats the catch you may ask ! Well there is no catch as such but free membership does not entitle you to the comprehensive manual. However you will receive the BT Guide to GOLD this is helpful but to really enjoy the facilities you will need to purchase the Disk with the manual in the form of text files. The price is £5.00 for Apple // or Macintosh formats.

## AGM - 12th April 1986.

Don't forget the AGM - it should be a good meeting with some useful demo's. You will also be able to purchase Software Library Disks at a discount. £1.00 off all disks sold at the meeting.

## Bits and Pieces

Future events - we need some feed-back on the events you want and where we should be holding them - if you have any suggestions please let us know.

Early plans for a workshop/show event in the Autum are being made - it is hoped that this will be in a suitable location to allow the maximum attendence. Any suggestions of a venu would be gratefully received.

To enable Hardcore to thrive we are seeking members to help is specific areas including - Graphic design - Sub editing - advertising - packing. If you are interested in helping with this fine journal then please contact the P.O.Box.

# apple® CENTRES
# KNIGHTSBRIDGE
# &
# SWISS COTTAGE



**AppleCentre - Knightsbridge**

Apple Computer have now joined forces with dealers to offer a new concept - 'APPLECENTRE'.

AppleCentre will be in effect a dedicated Apple retail outlet with training and service facilities of a high standard. Bang & Olufsen offshoot ExpoCompetence, a specialist shopfitting company have been retained to design the Centres. The outcome has been a very subtle environment which enhances the Apple image.

The first 'AppleCentre' has been opened in the heart of London at 28/30 Knightsbridge. This is in effect a new branch of Advanced Micro Products of Eltham . This dealership has been around since 1981 and has had a steady growth culminating in plans to open a central London Store. Apple decided that AMP were suitable in terms of experience and support offered to customers, to be the first joint venture under this ambitious scheme.

Apple hope that 50 AppleCentres will be in operation by the end of 1987. The good news is that already the second one has been opened in Swiss Cottage, North London. This is under the ownership of another long term Apple Dealer ActionData Ltd. It is located on the first floor of Swiss Cottage House, 8-13 Swiss Terrace London N.W.6.

The Interior colour is quite stunning with a combination of white, grey and red . The whole design is very up market, it should improve the overall image of Apple and its dealers.

Some of the ideas are quite good, each dealership must have a training area and must provide level one servicing on a 24 hours basis. Apple expect the dealer to ensure that they have ample stock available and they also require the dealer to provide a fully trained staff.

The one make dealer should attract more support from Apple, because he will have to rely totally on the company for his living. Apple have not gone into the franchise business unlike some other large computer manufacturers - what they have done is to provide the dealer with the right kind of image so that he can sell Apple Computers. These dealers will be supplying the whole range of machines and they will also have access to third party software.

I hope that this idea is successful because Apple have been getting it right for the last few months, with a new image they may actually penetrate the business market and eventually knock the IBM of its pedastall.



**Interior of AppleCentre - Swiss Cottage (Training Area)**

The machines are slowly changing and now we see the public image of Apple changing with this massive investment in marketing the machine. This venture is being watched by the main company in the USA and if it goes well I am sure that AppleCentre could become an International venture. I must wish AppleCentres success because it is the future in the UK for Apple.

**AppleCentre Knightsbridge,
28-30 Knightsbridge, London SW1X 7JN
Telephone 01-245-6555**

**AppleCentre Swiss Cottage,
1st Floor, Swiss Cottage House,
8-13 Swiss Terrace, London NW6 4RR
Telephone 01-586-3203**

# AppleCentre Knightsbridge

28-30 Knightsbridge, London SW1X 7JN 01-245 6555
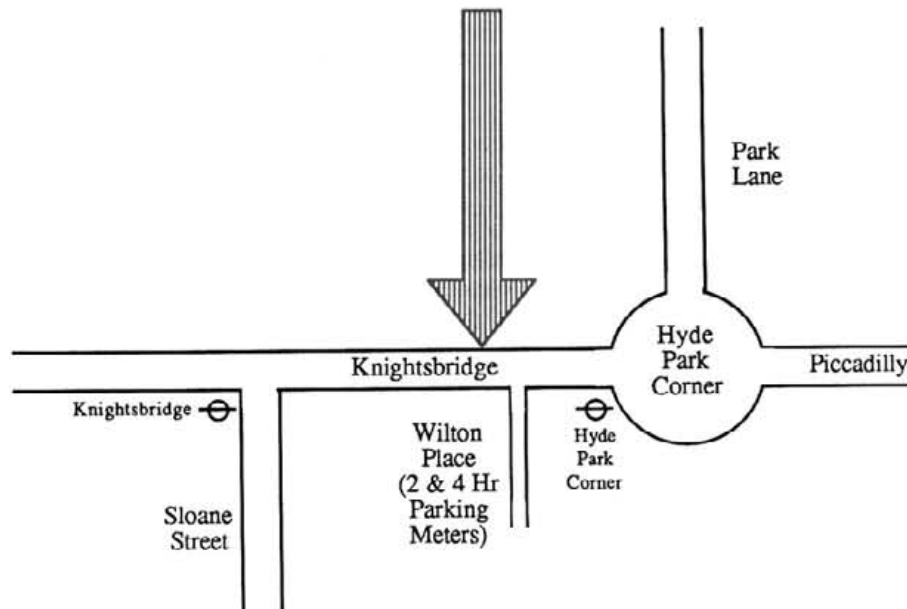


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chat with the staff - and maybe get a coffee - we
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If you need Laser Printing for your work, bring the
document. If you need Comms facilities through
One to One, bring the mailbox or Telex number.

# PAGE MAKER - A REVIEW

By Jim Panks

### VERSION 1.1
Available at any Apple Dealer £450

Page Maker is the first really easy way to produce page layout, yes you can produce camera ready art-work without any 'Cow-Gum' what so ever. The ideal machinery for this is at least a 512k Mac and external drive. You will also need access to a Laserwriter or other postcript compatable typsetter to produce your final hard-copy.

To write a useful review it is nice to be able to put the software through some sort of simulated use, well we used the last edition of Hardcore to try out Page Maker. The test was quite difficult, we only had ten days to produce the finished art work.

Stage one in using any software is to read the manual through, well like many other users I skipped that stage, opting to refer to the manual if any difficulties arose. The manual is fairly thorough in its description. I found that the reference section in the back gave enough information for the average user to get by. When I sat down later and read the manual I found that it was similar to the Apple produced books for the Mac with plenty of drawings and explainations. It covers the subject very well.

The package comes on two disks, a start-up disk which is placed in the internal drive and contains the System, Finder, Laserwriter Driver, Imagewriter Driver and a Help file. The other disk called the program disk contains the Page Maker Program and a Quick Tour. The Quick Tour is used in conjunction with the manual to get you used to the various tools and methods of doing things. It is an ideal system for beginners as it shows all the main features .

The major problem with Page Maker at this stage is the amount of disk space used and you will have to plan things before you start. If you do not have a hard drive or the new 800k drives then planning is essential.

Aldus advise that you strip all the unwanted items from the disks and use the Start-up disk for any files you will be using and the program disk for your Page Maker file. You can save a lot of space by removing the Laserwriter files and the Help file from the start-up disk. You should start with only the Application file on the Program disk. Even after you have removed all these files you are limited by the disk space and I have found that the optimum number of pages that can be produced in each Page Maker file is about six pages. This can be a problem if you are producing a mammoth publication.

If you intend to use Page Maker for serious business use, you will need a Hard Drive or a Mac Plus and an 800k external drive. As they say its horses for courses and you do need to think hard about what equipment you will need for your particular use.

Aldus have a good policy when it comes to the protection of the software, this package is heavily copy protected and this sometimes can be a problem. Aldus will supply you with a free second copy of the program when you return your registration card. You can copy the disks normally however when you first boot up it will ask you to insert the original in the internal drive. Providing you do not re-boot you will not need to use the originals again. This system works and is not as painful as others that I have come across. You can install Pagemaker on to a Hard Disk but again you will have to verify each time you boot-up.

When you first start up PageMaker you have to inform it of the page size, number of pages and margins. This takes no more than twenty seconds and you can change margins and pages at a later stage if you wish. Once this has been done you will see the page set up on the screen (see fig. 1).

At the bottom left hand side of the screen will be a representation of the number of pages that have been selected plus a left and right page symbol. The left and right page symbols allow you to set master items that will show on all pages. This system is flexible, you can delete the master items from individual pages that do not need them. The master items allow the easy setting of headers and footers, column guides and standard ruler guides, you may also have automatic page numbering. The major bonus of this system is that it saves you time and all pages will look similar.

Once you have set up the two master pages you can then go to work on the layout of individual pages, to help you do this you have various tools which includes a rudimentry text editor, drawing instrument and ruler set up. The toolbox gives you eight tools (see figure 2) .

1. Pointer for selecting objects.
2. Line for drawing lines at any angle.
3. Constrained line for horizontal or vertical lines.
4. Text Editor for entering or altering text.
5. Box for drawing rectangles.
6. Rounded Box for rounded corners on boxes.
7. Circle for drawing circles.
8. Picture Cutter for trimming pictures.

These tools are all the same as found in other text and graphics programs, they all work well and in conjunction with other features give a wide range of options.

PageMaker has a facility to import text and graphics from other Mac programs - this is called PLACE and it allows you to access files from MacPaint/Write/Draw and Microsoft Word. You can also use straight ASCII text files created with other programs i.e. MacTerminal, Red Ryder and MockWrite. The options that this allows is quite wide, for instance you can download files from BT GOLD and place them straight into your PageMaker document. When you PLACE files they will be formated to the rulers that are on the page. This means that you do not have to re-format the whole document.

If you place a picture you can use the Picture Cutter to trim the picture to the correct size. You can also reduce or enlarge in proportion although I found this option slightly disappointing. If you use MacPaint files then you will need to study the Laserwriter documentation to get the best results. A good guide is that any PageMaker Document will need to be reduced to 96% when printed.

Text handling is very easy, you can either enter it straight into the program by using the Text symbol or you can PLACE it. Whatever method you use the facility for moving text around and changing the formating is the same. You have a TYPE menu item which allows the choice of fonts and styles, you also have the choices of formating and Black or White text. The last choice allows the printing of black boxes with white text just like the newspapers.
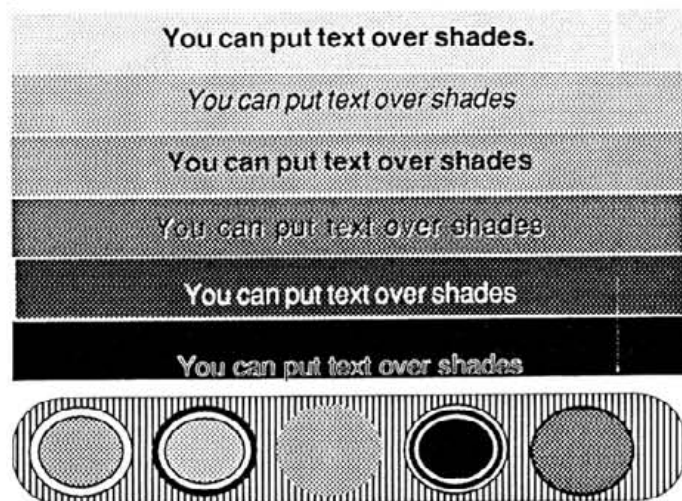
Text is stored in blocks with a starting marker and ending marker, if the text block is longer than the space available you can PLACE it any other area, the program remembers the location of text and allows you to move the text around. If you place text and have some in another place it will move text between them if you enlarge or decrease the area of either piece. If you change margins and then replace the text it will automatically realign any following text. This allows for flowing around pictures and drawings. This facility works across page boundaries so you can place text on two or three seperate pages in the same publication.

The page has some space on either side this is called the cutting board and allows you to manouever pictures and text before incorporating it into the page layout. You can also do some precise measurements using the ruler and markers. You can have either metric or Imperial measurements. The whole layout proccedure takes no more than an hour of practice before you can produce fairly profesional results.

To illustrate the ease of use the system I used to produce the February Hardcore went something like this.

1. Set up the marginsand columns.
2. Set up the left and right page master items. (Headers etc.)
3. Copy the file to another disk (Standard Format File).
4. Get articles together and place on Start-up Disk.
5. Get MacPaint Files in to Scrapbook.
6. Re-boot and start on pages 1-6
7. Do heading and then place text file etc.
8. Check spelling and tidy up pages.
9. Repeat the above 7 times.
10. Take disk to local dealer and print on Laserwriter.
11. Send to printers.

You can draw lines, boxes and circles with various shades and line thicknesses. You can then put the boxes and lines behind or in front of other objects including text. This enables you to put text into shaded boxes and overlay objects:

**You can put text over shades.**

*You can put text over shades*

**You can put text over shades**

You can put text over shades

You can put text over shades

You can put text over shades

The various line thicknesses and shading patterns available are shown below - these give a fairly comprehensive number of variations:
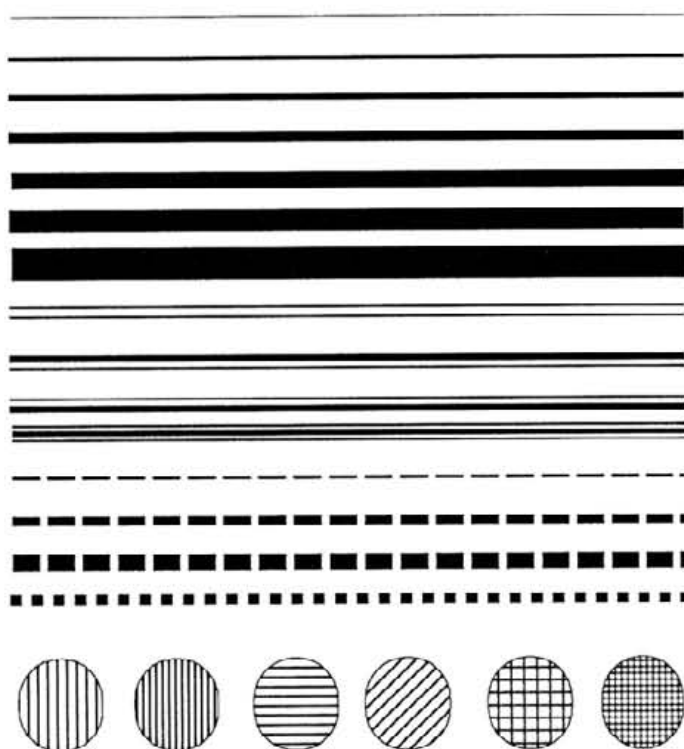
The ability to produce good quality publications is now within the reach of the small business and I can see the whole area of Desktop Publishing becoming a very competetive market. Apple have with the Macintosh, Laserwriter and PageMaker made a very large inroad into this market and it will be some time before the others catch up.

I can through my experience with PageMaker reccommend it to anyone desiring a good quality publication without the hassle of typesetting. The other good point is that this set-up does not work 9-5 and therefore those urgent jobs can be produced without relying on someone else.

The quality of the output can be gauged by this journal as PageMaker is used for all the artwork. Remember the limitation when used without a hard drive or twin 800k drives.

## Stop Press.

I have been able to use PageMaker with a MacPlus and a 800k external drive and the extra speed and drive capacity has saved about an hour on disk swapping and file transfers. This was on only twelve pages and therefore is about a 20% saving overall. If you are going to use PageMaker in a business environment then you must look to a MacPlus and as much disk space as you can afford. As Hard Drives fall in price I feel this is the only route to take. I have also heard that a new version of PageMaker will be available during the Summer. Not that there is anything wrong with version 1.1.

If you have the Omnis Data Base Management program and would like to have an extra disk drive on-line, and also speed up the use of this program, then this is the way to do it.

## REQUIREMENTS.

1 Disk Drive and 128k Ram Card = Gives one data storage disk.
2 Disk Drives and 128k Ram Card = Gives two data storage disks
3 Disk Drives and 128k Ram Card = Gives three data storage disks

You need not have a 16k or language card in slot Zero if the 128k Card resides there, however it is a good idea to maximise the versatility and storage to put the 128k card in another slot ie. 7 and use a 16k card in 0.

The method of operation is to utilise the 128k ram card as a fast PSEUDO drive allocated as drive 10.

The method is to use one of the utility programs on your Pascal Disk that comes with the 128k Ram Card. If you do not have one, the Saturn Systems 128k Card has a full suite of disks for CPM, PASCAL & BASIC and providing your ram card is based on the Saturn System then it should work.

You will also require Apple Pascal for the successful transfer of the data across to a Pre-Boot disk.

I have tried to utilise the Version 1.2 Pascal FILER that is used by Omnis but have not yet obtained a satisfactory solution to a writing problem that occurs. Obviously the different versions of Pascal are not quite compatible.

Firstly prepare a formatted Pascal Disk and name it Omnis Pre-Boot. Copy the Pascal Disk 1, using a normal copy program and boot.
After initialisation you will get:-
Command: E(dit, R(un, F(ile, C(omp, L(ink, X(ecute, A(sem, D(ebug, ? (1.1)
TYPE F [c/r].
The Response will be:- Filer: G, S, N, L, R, C, T, D, Q (1.1)
Insert 128k Utility disk in drive 2
Type L [c/r].
The Response will be:- dir listing of ?
Type #5 [c/r]
You will now get a listing of all the files on the Utility Disk.
Type T [c/r]
The FILER will respond Transfer ?
Type CAREFULLY #5:PSEUDO.CODE [c/r]
The FILER will respond : To where ?
Type CAREFULLY #4:PSEUDO.CODE [c/r]

The drives will now work and show the transfer has taken place. Repeat the above procedures with the following files; ATTACH.DATA; ATTACH.DRIVERS; PARAM.DATA. Now reboot your preboot disk to the prompts:- Command: E(dit, R(un, F(ile, C(omp, L(ink, X(ecute, A(sem, D(ebug, ? (1.1)
Type X

The System will Respond : Execute what file?
Type PSEUDO [c/r] After a little disk Access the following Menu will be displayed on the screen :-

```
APPLE PASCAL PSEUDO DISK
COPYRIGHT 1982 Kenneth Roe
COPYRIGHT 1982 Saturn Systems, Inc.

<1> LOOK AT CONFIGURATION
<2> CHANGE CONFIGURATION
<3> PUT CONFIGURATION IN ATTACH.DRIVERS
    AND EXIT
<4> EXIT
```

ENTER 2 and follow the prompts to select your particular configuration of slot/ram card and exit to the above front Menu. Check all is well with <1> LOOK AT CONFIGURATION before selecting <3> and installing your particular system configuration in the file ATTACH.DRIVERS and finally exiting the program.

It is this part of the procedure that will not work with the Omnis version of Pascal, if anybody can advise me why and how one can get over this problem then we will advise in an update to this article.

Re-Boot the Pascal Disk 1 and transfer from the Utility disk, in drive 2, the following files:-SYSTEM.ATTACH & FASTCOPY.CODE

Your Pre-Boot Disk is now ready for action.

Now boot Omnis and select (H) Hardware definition and on the 3rd screen ammend Default drive to 10 ie. enter 10 where there is at present a blank space against Default directory. Press Esc to write this to your disk. Leave all other information alone.

What you have advised Omnis to do is to Look at drive 10 (what your pre-boot will set up) before any other drives.

Re-boot with your new (write protected) pre-boot and when you get the line:- Command: E(dit, R(un, F(ile, C(omp, L(ink, X(ecute, A(sem, D(ebug, ? (1.1)
Replace your Omnis Boot Disk in drive 1 (#4) and TYPE I [c/r]
This will re-Initialise the system and warm-boot Omnis.

When Omnis is up, go to Disk Management and you will see that Drive #10 is now present. You can now copy your Library file to Drive #10 using the Copy command and you will see the speed that screens are loaded from the 128k Card when you access Omnis.

You will have to extend your data disks by one, using the appropriate Disk Management function of Omnis if you wish to utilise the extra drive now available.

At the end of your session of Omnis, if you have amended the library file, do not forget to go to Disk Management, insert the library disk, and re-write your amendments to the library disk.

One other facility that you can use is the FASTCOPY file that we transferred onto your pre-boot disk. This facility will Upload or Download your Library file to the 128k card with remarkable speed, a 180 block move takes 20 seconds.

To utilise this facility after loading the pre-boot, TYPE **X** to get the Execute what file, then TYPE **FASTCOPY**. By following the prompts you will transfer your library files to and from the 128k card.

After this is done you may either exit or Type I to enter Omnis, having first placed the Omnis boot disk in drive 1 (if you are at the beginning of a session).

If you are sure of your power supply, there is no reason why you should not use the 128k card for storing data and leaving the library disk in a drive.

As a footnote to the above instructions, I would like to encourage you to have a go at preparing the pre-boot disk. I have no knowledge of PASCAL, (otherwise I might have recognised how to fix the Apple/Omnis Pascal Bug) and yet managed.

The Speed difference and extra storage drive facility adds a new dimension to the poor non-Hard disk owners. Try it - you will never use Omnis without it again, I promise.

**Do not forget to back up your Pre-Boot and write protect it.**

Next issue - how to do the process totally automatically by amending your existing Pre-Boot disk.

## New products notified.

(This information is taken direct from Advertising sent to BASUG - Please check with the Dealer that it is what you want - we will endeavour to get independent reviews wherever possible.)

The PEACOCK RGB colour module connects your //c to an RGB colour monitor producing coloured text and graphics. Background colour is selectable using DIP switches. A special price is offered to BASUG members of £36.00 inc. V A T with delivery of £3.00.

Available from DMS, Bretton Court, Manor Road, Wales Village, Sheffield S31 8PD

A screen designer called FOUR-SIGHT is available which allows screens to be assembled which can have multiple lines with multiple input or output fields per line. Control characters may be defined to read, write or print the entire screen of information. The object modules are relocatable. The program will run on DOS 3.3 or PRODOS. For 80 column display you will need the APPLE //e 80 column card or for the APPLE II+ the Videx Videoterm card.

Available from Four-sight Software, Inc., P O Box 147, Colonia, New Jersey, U S A for $19.95

From Micro-W comes the Font Downloader and Editor, it is designed to be used with Apple //+ and //e machines and is compatable with the Epson FX-80, C.Itoh Prowriter 8510AP, Apple Dot Matrix and OkiData 92/93. It can be used with any word processor capable of sending printer control codes. The disk contains four type styles and you can purchase further font disks.

Apple //c Parallel Printer Interface - c-Print turns the standard serial printer port of a //c into a parallel port. The cable has a standard 36 pin printer interface on one end and a 5 pin DIN connector at the computer end. Just plug it in and you have a parallel interface. No software is required and it costs $99.95

Available from Micro-W Distributing Inc, 1342B Route 23, Butler, New Jersey o7405

Computer Bookshops Ltd 30 Lincoln Road, Olton, Birmingham B27 6PA have notified that they have a wide range of Apple Books in stock. They list 24 books for the // range and 15 for the Macintosh. If you have any problems obtaining books why not get in touch with them. They also can arrange for books not available normally in this country.

## COPYA - Enhanced Version
## by Ewen Wannop

The following modification to that old favourite COPYA, has been around some of the bulletin boards for some time. I now pass it on to you all. Use it with the COPYA.OBJ program in place of the usual COPYA. It will allow you to copy up to 40 tracks (//c owners note!) It will allow you to copy any range of tracks with or without initialising the destination disc, very useful for copying DOS onto a data disc. It will initialise up to the end track specified, or the catalog track, whichever is the greater. Have fun with it, and thanks to Apple for writing the original in the first place.

```
0    TEXT
10   REM *********************
20   REM *       DISK COPY        *
30   REM *   COPYRIGHT 1980 BY    *
40   REM *  APPLE COMPUTER INC.   *
50   REM *    ADAPTED BY EWEN     *
60   REM *********************
70   POKE 697,173: POKE 698,184: POKE
     699,2: POKE 700,32: POKE 701,218: POKE
     702,253: POKE 703,96: IF  PEEK (768) =
     8 AND  PEEK (769) = 201 GOTO 90
80   PRINT  CHR$ (4)"BLOAD COPY.OBJ0":
     REM A$2C0
90   HOME : PRINT "    APPLE DISKETTE
     DUPLICATION PROGRAM": PRINT : PRINT
100  ID$ = "Y": PRINT  CHR$ (4)"NOMON"
110  CALL 704:CS =  PEEK (718) / 16
120  POKE 715, PEEK (110) + 1:
     REM BUFSTART
130  POKE 716, PEEK (112) - 1:
     REM BUFEND
140  I$ = " ORIGINAL":N = CS:A = 718:
     GOSUB 710:MS = N:N =  PEEK (720):
     GOSUB 720:MD = N:A = 717
150  I$ = "DUPLICATE":N = MS: GOSUB 710:
     SS = N:N = 3 - MD: GOSUB 720:SD = N
152  FT = 0
155  VTAB 5: HTAB 25: PRINT "            ":
     VTAB 8: HTAB 25: PRINT "           "
158  CALL 704: POKE 717,SS * 16: POKE
     718,MS * 16: POKE 719,SD: POKE 720,MD
160  POKE 770,35: POKE 863,35: VTAB 11:
     HTAB 1: CALL  - 958: PRINT
     "INITIALISE DISK:    "; : HTAB 23:
     INVERSE : PRINT "DEFAULT = ";ID$;:
     NORMAL : HTAB 20
170  GOSUB 850: IF I$ <  >  CHR$ (13) AND
     I$ <  > "N" AND I$ <  > "Y" THEN HTAB
     20: GOTO 170
180  IF I$ <  >  CHR$ (13) THEN ID$ = I$
190  HTAB 20: PRINT ID$;"
     "
210  VTAB 13: HTAB 1: CALL  - 958
220  II$ = "":IP =  PEEK (721) + 1: IF IP
     = 256 THEN IP = 0
230  PRINT "   START $00-$27:    ";:
     INVERSE : HTAB 23: PRINT "DEFAULT:
     $";: POKE 696,IP: CALL 697: NORMAL :
     HTAB 20
240  GOSUB 850: IF I$ =  CHR$ (13) THEN
     HTAB 23: PRINT "          ";:
     GOTO 260
250  PRINT I$;:II$ = II$ + I$: GOTO 240
260  IF II$ = "" THEN 300
270  GOSUB 870: IF  VAL (II$) > 39 OR
     VAL (II$) < 0 THEN 210
280  II =  VAL (II$) - 1: IF II =  - 1
     THEN II = 255
290  POKE 721,II: POKE 722,II:IP = II+1:
     IF IP = 256 THEN IP = 0
300  HTAB 1: PRINT "   START TRACK $: "; :
     POKE 696,IP: CALL 697: VTAB 14: HTAB 1
     :CALL  - 958
310  II$ = "":EP =  PEEK (770) - 1: IF EP
     =  - 1 THEN EP = 255
320  PRINT "     END $00-$27:    ";:
     INVERSE : HTAB 23: PRINT "DEFAULT: $";
     :POKE 696,EP: CALL 697: NORMAL:
     HTAB 20
330  GOSUB 850: IF I$ =  CHR$ (13) THEN
     HTAB 23: PRINT "          ";:
     GOTO 350
340  PRINT I$;:II$ = II$ + I$: GOTO 330
350  IF II$ = "" THEN 370
355  GOSUB 870:ZP =  VAL (II$)
360  EP = ZP:IF EP >39 OR EP<0 THEN 300
370  IF EP < IP THEN 300
380  HTAB 1: PRINT "     END TRACK $: "; :
     POKE 696,EP: CALL 697: POKE 770,EP
     + 1: POKE 863,EP + 1
420  VTAB 17: POKE 34,16:HOME:POKE 222,0
430  PRINT "-- PRESS 'RETURN' KEY TO
     BEGIN COPY --";: INPUT " ";I$
440  HOME
450  DK$ = " ORIGINAL": GOSUB 790:
     REM  GET ORIG DISK
460  VTAB 5: HTAB 25: INVERSE : PRINT
     "READING": NORMAL
470  CALL 707: REM   READ A HUNK
480  IF  PEEK (713) = 2 THEN 660:
     REM ERROR!
490  VTAB 5: HTAB 25: PRINT "        ": IF
     PEEK (713) = 1 THEN 670
500  IF FT THEN 590: REM  NOT FIRST RD
510  DK$ = "DUPLICATE": GOSUB 790: REM
     GET DUP DISK
520  ONERR  GOTO 640
530  IF ID$ = "N" THEN 560
540  VTAB 8: HTAB 25: INVERSE : PRINT
     "FORMATTING": NORMAL
545  IF  PEEK ( - 16643) = 201 AND EP >
     = 17 THEN  POKE  - 16642,EP + 1: POKE
     - 20811,(EP + 1) * 4: POKE  - 19473,EP
     + 1
```

```
550 PRINT CHR$(4)"INIT
    XXX,S";SS;",D";SD;",V"; PEEK (714)
    :FT =1
555  VTAB 8: HTAB 25: FLASH : PRINT
     "PRESS A KEY";: NORMAL : GET A$
560  VTAB 8: HTAB 25: PRINT "           "
570  POKE 216,0: POKE 222,0
590  DK$ = "DUPLICATE": GOSUB 790:
     REM  GET DUP DISK
600  VTAB 8: HTAB 25: INVERSE : PRINT
     "WRITING";: NORMAL : PRINT "    "
610  CALL 710: REM    WRITE A CHUNK
620  VTAB 8: HTAB 25: PRINT "          "
630  IF  PEEK (713) < > 2 THEN 450
640  IF  PEEK (222) = 255 THEN  STOP
650  VTAB 18: INVERSE : PRINT "******
     UNABLE TO WRITE ******": GOTO 670
660  VTAB 18: INVERSE : PRINT "******
     UNABLE TO READ ******"
670  VTAB 19: NORMAL : POKE  - 16368,0:
     PRINT : INPUT "DO YOU WISH TO MAKE
     ANOTHER COPY?";I$: IF  LEN (I$) = 0
     THEN 690
680  IF  LEFT$ (I$,1) = "Y" THEN 152
690  IF  LEFT$ (I$,1) < > "N" THEN 670
700  TEXT : END
710  PRINT : GOSUB 780: PRINT N;: NORMAL
     : HTAB 1: PRINT I$;"  SLOT: ";:L = 1
     :H = 7: GOSUB 730: POKE A,N * 16:
     RETURN
720  GOSUB 780: PRINT N;: NORMAL : HTAB 4
     : PRINT "       DRIVE: ";:L = 1:H = 2
     : GOSUB 730: RETURN
730  K =  PEEK ( - 16384): IF K < 128 THEN
     730
740  POKE  - 16368,0:IF K = 141 THEN 770
750  K = K-176:IF K < L OR K > H THEN 730
760  N = K
770  HTAB 20: PRINT N;"
              ": RETURN
780  INVERSE : HTAB 23: PRINT "DEFAULT =
     ";: POKE ( PEEK (41) * 256 +  PEEK
     (40) + 14),96: RETURN
790  IF MS < > SS THEN  RETURN
800  IF MD < > SD THEN  RETURN
810  HOME : IF  LEFT$ (DK$,1) = "D" THEN
     PRINT
820  PRINT "INSERT ";DK$;" DISK AND PRESS
     RETURN";: INPUT " ";DK$
830  CALL  - 936
840  RETURN
850  K =  PEEK ( - 16384): IF K < 128 THEN
     850
860  POKE  - 16368,0:I$ =  CHR$ (K - 128)
     : RETURN
870  IF  LEN (II$) > 2 THEN II$ = "255"
     : RETURN
880  K = 0: FOR I = 1 TO  LEN (II$)
890  J$ =  MID$ (II$,I,1):J =  ASC (J$)
900  IF J < 48 OR (J > 57 AND J < 65) OR
     J > 70 THEN II$ = "255":I =  LEN
     (II$): RETURN
910  J = J - 48: IF J > 9 THEN J = J - 7
920  IF I = 1 AND  LEN (II$) = 2 THEN J =
     J * 16
930  K = K + J: NEXT :II$ =  STR$ (K):
     RETURN
```

# Word Processing Language

## By John Cooper

It has been suggested that many users may not be using the power of Apple Writer to its full. Certainly, the WPL (word processing language ) available in Apple Writer gives the system a great deal more power than other WP systems around and the ability to tailor the requirements of a user in areas such as Formletters is considerable.

One side to Apple Writer that the average user may not appreciate is the ease at which the system is geared to control the printer. When I first encountered this program I had been used to using other systems which boasted facilities such as Bold Print, Columning, Superscripts, Subscripts etc.

Like most people I needed to use Apple Writer virtually straight away and therefore did not have the time to explore the higher echelons of the system before needing a working practical knowledge. The priorities were text insertion, editing and printing out in fairly standard business formats.

All was bouncing along very well and in the fullness of time I mastered the W.P.L (made somewhat easier I suspect by the fact that I am a COBOL and BASIC programmer and therefore concepts such as variables, branching, subroutines etc. fell easily at my door). Then I needed to produce a document similar to the contract example on the Apple Writer master.

For those not familiar you might like to try this. Boot in the Apple Writer Master disk and when the data line display has appeared type CONTROL-P then type do DO DEMOS and RETURN. This runs a demonstration WPL program called DEMOS which gives a good idea of the scope of the W.P.L.

Anyway, as I was saying, I needed to create a W.P.L. Program similar to the contracts example. However there was one major difference, I wanted to produce two columns of text each fully justified. In themselves two columns were easily produced using differing left and right margin embedded commands.

However the problem came when I needed to command the printer to roll backwards to the exact spot where the first column started so that the second would be level. I knew what needed to be done but it was just finding the right way to do it. Somehow I had to get Apple Writer to accept special printer codes to tell the printer what to do.

In this case time was short so taking the most cost effective way out I put a Pin command in my W.P.L. (similar to input in basic, halts execution and will display a message on the screen. Although it is nicer in one way that you do not have to assign a variable if you don't want one - RETURN will continue.) which told me to rewind the printer by hand at the appropriate time to the appropriate spot.

This worked and I was able to produce two columns of print as required. But I was not happy. Surely Apple Writer had to be able to send special codes to the printer to enable negative line feed and other goodies. Well it had to hadn't it, the underline token sent a code to toggle the underline on and off. Every time it met a carriage return it produced line feed and so on.

Thumbing through my printer manual made me more frustrated. The printer I was using was a Qume Daisy wheel and the manual showed in graphic detail the abilities of the printer. Here I name but a few Bold print - Shadow print, half negative line feed, half positive line feed (the last two useful for super/subscripts), absolute vertical tab to a line number. All of this would give me total control over my printer.

I don't know if you're anything like me but it often happens that the first time I go to look something up in a manual I can never find it. This was a particularly good example. I couldn't find anything under printer codes in Apple Writer tech manual index, nor Bold nor negative line feeds, so I thought all was lost. Was Apple Writer a genuine WYSIWYG program in that the only special codes that could be sent to the printer were the ones pre-programmed into the system ( underline, form feed, carriage return and suchlike)?

On the system I use, to print a pound sign I have to use the CONTROL and V to put the system into "insert control characters" and type in ESCAPE and SPACE, then CONTROL V again to toggle out of the "control character insert" mode. This was the answer and the proof that total printer control was available in APPLE WRITER.

To produce total printer control is relatively easy. First, look up the codes in your printer manual and then using CONTROL V to toggle on and off the "special code insert" mode enter your desired code n characters, rather than in ASCII values or hexadecimal.

Here is an example. Say for instance you wish to print a 3 to the power of 5. Type the figure 3 as normal then CONTROL V, type the code for a half negative line feed, CONTROL V, the figure 5, CONTROL V, the code for a positive half line feed and finally CONTROL V. The positive half line feed at the end will return the printer onto the correct line for the rest of your text.

For a Qume printer the screen will look like this:- 3[D5[U
The square bracket denotes ESCAPE, on the Qume ESCAPE D is negative half line feed and ESCAPE U is positve. The act of pressing ESCAPE will put the bracket on the screen. Look up the codes for your printer as they may well be different.

As I have said earlier it is often, well for me anyway, a case of working something out and then inadvertently running across the answer some time later in the manual where I didn't expect it to be. This happened with regard to special printer codes.

I was rummaging through the APPLE WRITER Master files when I came across a file called SPECIAL. After loading it it was abviously a glossary file of special printer codes and lo and behold there was a partial explanation on pages 58 and 59 of the Apple Writer tech manual, showing how you could take the system one stage further to create programmable function keys to insert your special codes in a slightly more user-friendly way by creating a glossary file. The only problem being that the predefined codes on the special file may not

work for all printers, but creating your own glossary file is easy. The manual explains this side very well.

Having said that I find it just as easy to enter the codes straight in when I need them. Remembering the glossary commands is no different from remembering the direct commands albeit the glossary system removes the need for toggling CONTROL V all the time as it is done in Glossary creation.

Of course it was after this that I found a copy of Apple User (Windfall May 1983) in the filing cabinet with an excellent article by Mike Glover and Christopher Roper on controlling the Epson. Although I suspect that non Epson users might have skipped it to their possible regret. The glossary technique and the use of CONTROL V are both outlined there.

Anyway I am happy now that I feel in command of my printer and my appreciation of the power of Apple Writer as a word processing system is that much more. I noticed in my printer manual that there was a graphics capability on the daisy wheel. Maybe I should look at that next.

THE HACKER'S HANDBOOK
by
HUGO CORNWALL
(Century Communications)

A REVIEW BY WILLIAM G WATSON

Remember the day that Prince Phillip's Prestel mailbox was broken into; or the excitement about the film "Wargames" in which youngsters are portrayed "hacking" into a US national defence system that nearly starts a world war. Wasn't there a television series, too. Well, whatever, over the past couple of years great interest has been shown in these stories of accessing other computer systems (or hacking).

There would appear to be a continuum of hacking activity. My order would not necessarily be yours but how about:- Government snooping, industrial espionage, bank fraud, petty crime, and "hackers".

The "hacker" would appear to be a beast who reads computer communication literature by day and who sits up all night at the keyboard. His pleasure is derived from successfully cracking a password gate and having a "walkabout" in some-one else's computer. He would seem to have a symbiotic relationship with computer systems security managers who take delight (and doubtless other feelings) in devising systems to keep him out.

Such is the view of the pseudonymous author of "The Hacker'sHandbook" who regards "hacking" as a legitimate sport; and "hackers" to be largely responsible people intent only on winning a game and not being being destructive to other computer systems.

This publication is geared to explain the techniques deployed in playing this game.Therein are chapters on equipment and software; on the various computer systems; on passwords and how to find them. There are hard facts and tips galore. Much of the book is written in the first person and I felt could be subtitled something like "Or How To Win At ....."
The author tells us that 90% of the information the hacker needs is publicly available and much of the rest may be inferred from that. He tells us that despite heightened security consciousness passwords are still chosen based on easily remembered names from personal life (such as the name of one's spouse, house or dog) or numbers from telephone numbers. Passwords on sticky labels may be seen on VDUs. I have seen (as the author mentions) FRED chosen as a password because the keys form a square on the keyboard.

Much of the information in the book will be of interest to anyone who uses a modem. Networks and packet switching are covered in some detail and I found the glossary and tables in the appendices most useful.

There is an informative chapter on how radio is used for the transmission of data and may encourage more amateur radio/computer users to experiment with the exchange of files over the airwaves.

CONCLUSION

Whoever he is, Hugo Cornwall is a self-proclaimed APPLE computer user. I would suspect that the sale of his book may have added at least a fan to his topless machine. The book is well written and nicely put together. It is crammed with facts of general interest to anyone into communications. It will appeal most to anyone who owns a modem - and would-be hackers. Computer systems security managers and people who run training courses in communications were probably among the first to buy copies.

CD-ROM

What is CD-ROM? Compact Disks Read-Only Memory!

There is news from the States that a compact disk controller is being developed, to allow storage of around 500 megabytes of read-only data. That's the equivalent of about 1250 Macintosh diskettes or about 3500 Apple // 5.25" diskettes! All this on a disk of 120mm diameter!

Microsoft is sponsoring the First International Conference on CD-ROM in March, but you'd have to travel to Seattle in the USA if you wanted to attend. At least it demonstrates that this is a serious new product, with a massive capacity for storage and speedy data retrieval.

Just imagine - a spelling-check program could use the Oxford English Dictionary as its database! The capacity of one of these small disks is about 500,000 typewritten pages.Just think, too, of the educational value of that amount of storage.

Few details are available yet, but this new type of product is being developed for use with Apples, so we're at the forefront of technology. We'll keep you posted on any developments.

## STARTING FROM JUNE.............

### OMNIS TALKBACK

Odette, Peter and Simon are the Technical Support team at Blyth Software.

During the coming months we will be writing in our own page about many interesting topics.

These will include specific technical hints and queries, conceptual understanding of Omnis 3, application of Omnis 2 and Omnis 3, connectability, time saving routines, sequences, updates and many more!

In the meantime, write to us with any suggestions you may have or any queries which may be of interest to other people.

Have you any interesting or unusual applications for Omnis?

Are you using, or thinking of using, any unusual hardware i.e. interface cards, printers, terminals, etc? If so, why not tell us about them.

The Omnis family of products are used by thousands of companies in this country, and as an innovator in the software world, we have a great deal to share with you.

See you in the next issue.

# Another Good Idea

## by Mr K. Kishimoto

### Monitor Resident Assembler Enhanced //e

Do you have an enhanced //e ? Do you want to dabble in machine code ? Then do not despair, your Monitor RROM has a resident Mini-Assembler.

To start the Mini-Assembler, enter the Monitor by typing CALL -151 [RETURN]. Then enter ! [RETURN].

The prompt will cahnge from the Monitor '*' to the Assembler '!'.

This assembler is identical to the Integer Basic variety. The $ [Monitor Command] option, however, seems to be missing and the Assembler does not support the extra 65C02 instructions.

Terminating the Assembler and re-entering the monitor can be achieved by pressing [RETURN] at a blank line.

---

For Sale.

Vicom 1.6 Communications Software, Complete with manual, for Apple ][+, //e £25.00

Phone (0704) 69410

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For Sale

Apple //e - 2 Disk Drives - 80 Column Card
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Multiplan, AppleWriter, PRODOS Development System, all as NEW with Manuals. Offers £ ??

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# Data Highway 2
# A Review
# by Q, Reidford

Data Highway is a comprehensive communications package which fully supports the Apple II, the Apple //e and the Apple //c. Support does mean FULL support in that Ewen Wannop has covered as many options and variations on these machines as is practically possible.

With the II+,which is my model, I was delighted to find that not only was my lower case modification suppoerted but also my Videx 80-column card. In fact most of the popular 80 column cards for the II+ have been accomodated in an automatic selection.

Version Two differs from version One mainly in the area of display variations, Pace, who market Data Higway have introduced their Apple Palette card which gives true Teletext on an RGB monitor and can be used with either the II+ or the //e.

Just so that //c users won't feel left out, the software will use the extended 80 column card on a //e or the extra memory of the //c to produce a colour display using the double hi-res capabilities of these machines.

This review started out on my II+ until I decided to prove that static electricity did indeed destroy chips !! However my ham-fisted attempts to clean
tarnish from the legs of some chips (and that's another story) has allowed me to use the full capabilities of an extended //e and, for good measure the Pace palette card.

Initial impressions of the package are enhanced by a 154 page manual in a good quality A5 ring binder. The manual I found to be very good, not just because it described the functions of the program well, but that it did a great deal to 'de-mystify' communications, especially for the first time user. There are two disks included in the package, one being a back-up as the program is copy protected.

On initial booting the user is shown a configuration page which automatically indentifies the machine type and asks a variety of questions depending on the machine and what cards the program has found and recognised. Serial cards supported are the Super Serial card, Pace Mastercards 1 and 2 (the latter is their autodialling card for the Nightingale modem) and the CCS 7710 card.

If the program has discovered that it's being used in a //c then the selections are made for you for obvious reasons ! Apple II+ users will be asked if they have an 80 column display and then if they can display lower case. Apple //e users are of course not asked if they have lower case as that is asssumed. I like this type of 'intelligence' in a program because in removes a lot of the unnecessary pre-ambles found in many other products.

Once you have finished with your configuration you are then asked if you want to save it to disk and, after doing so, you find yourself faced with a menu of primary choices.

It is worth a mention that Data Highway has been placed under a remarkable fast loading system called 'Speedloader' which was written by Cornelius Bongers and Willem Schouten. This is available from BASUG..

When I was using my II+ with Data Highway the machine was fitted with a CCS 7710 serial card. With version One of this program that meant that Prestel type systems were beyond the reach of the card as it has no split baud rate generator. However, with version Two, Ewen has devised a means of allowing the CCS card to access Prestel and any other systems which use a split baud rate. To allow the CCS card to do this you must be sure to set the internal DIP switches on the card to the highest baud rate, therefore for 1200/75 the switches have to be set for 1200 baud. I have used the program with each of the supported cards and they all work faultlessly.

Pressing '1' from the main menu will load the terminal program and display either a 40 column sub-menu over most of the screen or, with an 80 column display, over the top one quarter. pressing 'G' at this point will allow the user to change defaults such as <C>opy buffer on etc. The baud rate and data word length are also set from this menu. The selection can either be saved as a new default on booting or, by pressing 'ESC' you drop into the command mode. In this mode disks can be catalogued and file transfers invoked. Pressing 'T' from command mode will effectively allow you to communicate with the modem ,and, if connected, with a remote computer system.

The menu system is comprehensive and easy to use, normally the lowest level menu is not used too often which leaves the command menu as the most frequently used. Commands are mnemonic such as <F>ile which displays a secondary file menu giving a choice of <S>end or <R>eceive. There are further selections after this offering either <S>tandard (ASCII) or <P>rotocol (X-modem) data transfer. All the prompts are clear and logical.

The file transfer area of Data Highway has the unique (as far as I know) feature of offering a whole disk transfer. At 1200/75 baud this means that a complete disk can be sent over the telephone with full error checking in about 25 mins. for a full disk. Compare this with the two hours that the operation would take at 300 baud !

One of the command options allows the user to <I>nitialise a disk in a specified drive. Very handy for those awkward moments which other programs don't provide for when the 'disk-full' message appears on the screen just as you are trying to save a buffer full of text. Assuming that you have selected the option as a permanent feature the buffer will hold approximately 26k of text, when full the contents will either be saved automatically to the disk with a sequential default name, or the user will be prompted either to save the text or to overwrite it with new text.

Pressing 'E' from the command menu will allow the user to enter a mesasge which can be stored on disk as a text file for later transmission. The program prompts the user for the line length and the text is word-wrapped to fit within the limits. However if you make a mistake in a previous line there is no way of editing that out.

If the file is to be sent up to say Telecom Gold then you must <V>iew the file first which will add 'hard' carriage returns at the end of each line, without this the text will upset the Telecom Gold message entry routine as it will be passed without any apparent carriage returns.

While I was reviewing this program I wanted to have some information telephoned through one evening, but I was not going to be around to receive it...Data Highway to the rescue.

Really I had two problems, one was that I didn't want the Apple switched on all night particularly as I knew my friend would call at a fairly specific time. The other was that I didn't want the system accessed by anyone else during the time. The latter problem was easy to rectify as there is an option in the terminal program's configuration menu to change the default remote password to one of my own choosing, also you have the option of specifiying the level of access to your disks.

This excellent feature will prevent the 'loss' of certain programs or files. I could, at this point have chosen the 'R' option from the command mode which would have set the system up to monitor the line all evening, however I found that the main program menu could offer an alternative, so I <Q>uitted' from the terminal program. Wait a few seconds while the program re-boots to display the primary menu. From this I selected the utilities menu and then the option for configuring auto-boot.

Choosing auto-boot remote as the option all that was left for me to do was to leave the Apple on a time switch for the evening. I am pleased to say that it all worked beautifully, my friend was able to leave a 26k file on my disk and, by using another remote feature, he even managed to write directly onto my disk a couple of his last minute thoughts.

Luckily the auto-boot feature can be overidden by pressing 'ESC' while the system is booting which then allows you to deselect the facilty from the utilities menu. I tried using the remote myself and found that it was intelligent enough to know that if I was sending at 75 baud when I tried to send a file to the Apple, the low speed was not suitable (on the basis of time and resultant cost) and displayed a message to that effect. I found that the program was full of these prompts which was a welcome change from either nothing at all to the ubiquitous 'Error #32'.

Given that using a computer to send data around should be as painless and efficient as possible then automation of some, if not all, of that process should also be possible. Again Data Highway caters for that with the extensive use of a macro facility. Macros are really just a shorthand way of getting the computer to respond to series of commands depending on specific circumstances. Data Highway can be programmed

through the macro facility to dial a remote system (assuming an auto-dialler modem), log you on if the system is available, and then take a series of actions for example collect all your mail then log-off.

One of the very few niggles that I have with the program is that you cannot access the macro editor from within either the viewdata or the terminal program. As most conditional macros depend on very specific characters being sent as prompts from a remote system I usually find that I get the wrong one first (or second) time around and keep having to nip back and edit the macro.

The macro editor uses the '*' as the delimiter so that '*D' would precede the number which the Pace auto-dialling modem would use for the particular service. Modems which use other conventions, such as Hayes protocol, would use the '*I' which means 'execute the next group of characters immediately'. For a Hayes type modem the syntax would be: '*I AT D 01-222-2222 <RET>'.

Control characters, including 'Return' show as inverse and each macro line is terminated with '*E'. Once the macro is saved it can be loaded from the terminal program using the <M>acro option and envoked from terminal mode by typing 'ESC'1 to n where n is the highest line number used during the creation of the macro. Pressiing only the numbers from command mode will start things rolling and allow you to sit and watch all those easily forgotten and miss-typed numbers flow smoothly down the lines.

Up to now all the display has been in monochrome, however, unless you have a Apple II+, all that will change as you enter the option for Viewdata from the primary menu. First entry into this area of the program will show a configuration menu which will allow you to enter your identification number and password. You can also enter special printer codes for graphic dumps of the Viewdata screens and a selection of frequently accessed pages which you use.

These pages can be accessed from the program during connection by two key presses. Saving the configuration will leave you with a screen display while the modem, or you, dial the service telephone number.

Users of the Pace auto-dialling modem board will be shown another option page on entry to the Viewdata program which will allow a series of system telephone numbers to be typed in for easy use.

You should enter the most frequently used number first as this can be accessed automatically if you choose to auto-boot into the viewdata terminal program. If you use an intelligent modem you will have to press return from the viewdata title page. Faced with a blank screen type in the instruction needed to wake up the modem and dial the number. To end the dial sequence you will have to type Control D which sends a true carriage return out to the modem as the return key has been re-configured to give the Prestel 'hash' sign.

Once the remote system has been dialled and the carrier locks

on the program then sends out your identifier, automatically signing you on. To make life a little easier the program has re-asigned some of the Apple keys to generate Prestel characters.

The two principal keys used on Prestel are the '*' symbol which precedes a page number and the '#' (hash) sign which is in effect a carriage return. The Apple's Return key has been re-assigned to generate the hash and the colon / semi-colon key will give you the '*', this allows much more simplified keying of page numbers but you must remember NOT to use the return key as a carriage return in message entry as that will end the message instead of giving a true carriage return. If you want to enter new lines you must use either the cursor keys on the //e or the 'Esc' I,J,K.M keys on the II+.

Data Highway also provides the user with a level of escape commands which will be displayed if you just press the 'Esc' key, these commands allow the user to Catalog disks, print out pages, save pages and prepare messages off-line.

The 'front page' of this escape menu contains a selection of the pages you wish to access most frequently. The page numbers of these are added during the configuration sequence and can be recalled at any time during execution by pressing 'Esc' and the relevant number. Actions such as printing or saving a page are simply envoked by pressing 'Esc' followed immediately by the key. If you have forgotten the correct key just pressing 'Esc' will display the menu and pressing the space bar from that point will display the second page of key characters. Further help can be obtained from the escape menu level by pressing '?'.

Preparing messages off-line is made simple by using the 'Esc-E' option which presents the user with a blank message entry page. As with the on-line entry page, you type in the Systel number of the recipient and then type in the message which is terminated by pressing the return key. The user is then prompted to enter a file-name which will be used for on-line recall.

As with the Terminal program, there is a Macro facility in the Viewdata program too. The use of macros here will allow you to build a 'route map' through several pages which you frequently want to access and read. For example ou may have a requirement to retrieve financial information on a daily basis from many Information Providers on the Prestel system.

Using the Macro editor each of the page numbers is typed in with delimiters of '-' or '.' depending on the length of time that you wish each page to be displayed. Entering the page numbers without these delays will simply flick through the pages without actually having time to see the contents.

There is another unique feature in Data Highway which I found to be very useful while searching through Prestel for odds and ends of information and that is the ability to 'flag' pages. Pressing the 'Ctrl-Z' key will mark that page · in memory and add it to a table which can then be used to recall any flagged page by simply pressing 'Ctrl-E'. This will display a list of the flagged pages each with a number against it which, if selected, will route you immediately to the desired

page. Even if you have not used the flagging facility, you can display a list of the last 31 pages accessed by pressing 'Esc-D'.

The actual screen display is very good indeed, the use of the optional Pace Palette card gives true Teletext in brilliantly sharp colour and is a joy to use. However it is the display available to those with either monochrome II+'s or, in particular, expanded //e's which really impresses me.

There are a notorious sequence of pages on Prestel which demonstrate the use of the 'dynamic cursor' display and these can cause havoc with many programs which have to interpret graphics because they do not have a Teletext chip. The pages are from *601601601 to *601601605 and if you want to see how well a viewdata program really handles the graphics try these pages, then try Data Highway on them....The use of the double Hi-res screen on the expanded //e or the //c is quite the best colour representation I have seen on a 'standard' Apple.

Without using a special monitor, but just a colour TV the Apple //e or //c owner will get a clear coloured display which, although it does not compare with the sharpness of the true Teletxt screen, will give a a very legible, slightly muted full colour Prestel screen, even down to coloured text. Monchrome display is obviously not going to be as visually exciting as a colour display but the graphics are clear and the text is very legible, Prestel features such as Flash and Reveal are also fully supported which does help to make the monochrome display enjoyable to use.

Data Highway is one of those increasingly rare Apple programs which fully supports all Apples from the II+ to the //c. All to often I find that new programs are written to optimise features only found on the //e, particularly in respect of 80 column support and the use of lower case chips. Data Highway does not make the II+ user feel like a second class citizen although I wish some-one would discover how to persuade a II+ to display double hires colour !

Both the terminal and Viewdata programs are literally packed with features, some of which are quite unique. The error handling is superb, menu selection is logical and clear. The first time user will find the program easier to use than many other communications programs and the experienced user will find that features such as the Macro facility will save time and money.

Any criticisms are small, I would like to have seen a line editor included as a utility in the terminal program and I would also like to access the Macro facility from within the main program. However the very fast loading routine removes much of the inconvenience in leaving the host program to edit the Macro.

By itself Data Highway is very good value for money indeed and, when used in conjunction with the Pace options of autodialling modem, Mastercard and Palette card the user has the most flexible and versatile communications program available for the Apple II family.

# Letters to the Editor

Dear Jim,

I have noted with interest your enthusiastic appeal to the membership of Basug for contributions to Hardcore. While my latest compilation of a Basic number crunching programme runs through several hours grind on my IIe accelarated by Speedemon, I thought I would address you on some possibilities for a contribution, and also tell you about my own Apple facility.

I have a IIe which runs DOS 3.3 attached to two standard Apple disc units. Output is to an Apple /// monitor and a colour TV (using the Apple video output board in Slot 7). When free, I borrow an Apple Dot Matrix Printer (and Grappler+). Slot £1 normally contains an Apple Pic interface, slot £2 a Speedemon, Aux 3 an extended 80 column card (Apple), slot £4 a Microsoft softcard (this doesn't work if slot £1 is occupied). Slot £6 contains the disc controller. Apart from the above problem (no one wants to own up to its solution!) my system has worked fine for over a year.

For input control I also have an Apple joystick and Bitstick 500. All this sits in my spare room at home and is used entirely for entertainment of my "brain". I do own two games programmes - Flight Simulator II and a chess programme. Primarily the Z80 is used for running the database Cardbox, and when I need to translate an IBM PC program for Apple use.

In general I am interested in Graphics. En route to writing and setting up a database of 'Flags' of the world and a Cardbox file of 35mm slides, travel books etc., I learn how to write Applesoft. Currently I am assembling programmes to illustrate "Fractal" calculations. In particular a programme for studying the variations of the Mandelboot set. This is an area of fascinating graphics (especially on such as VAX 8600) which I am trying to make worthwhile on the IIe. Although a number of computer routines have appeared for various micros, I have not been able to find any for Apple II, so I have had to rejig, rewrite and invent (with some help from a programmer who doesn't believe in Basic on micros, as he writes 150,000 line Fortran programs and works with a Cray!).

All this helps me learn how to write Basic - the standard manuals and many texts don't seem to do very well. To date I have had little recourse to other Apple users, but the deeper I get hooked the more I think I ought to make use of other users knowledge - and indeed share any I have acquired by long hours of frustration. One definately has to be an enthusiast to persevere with the IIe, or for a big Beeb or an Amiga.

My list of problems would fill your pages, so I haven't really had the nerve to call up for fear of becoming a BT shareholder!

Perhaps however if you thought other members may be interested in the background to "Fractals", there utility in real life and explanation of the relatively simple mathematical background to programmes which produce fascinating and imaginatively variable patterns, then I could contract to do so - let me know what length and how much space for graphics would be allowed. Also your deadlines for receiving copy. I should warn you that while I endeavour to make my Applesoft efficient, my routines are a bit short at this time on user friendliness. Would listings need to be made "idiot proof"? Mostly I would prefer to produce the starter version, and let the programmer expand the scope.

At some time if other members would like it (I certainly always appreciate such items in other Apple publications), I would be happy to pass on my comments on the use of a number of software packages. e.g. Beagle Graphics (certainly more effective than "Doublestuff"). I use a number of Penguin and Beagle programmes, and the TASC Applesoft compiler.

As yet I have not got going with Assembly language - although I do have quite a few texts and discs. Mostly I have not been able to find a "learn it yourself" approach, or choose the best Assembler. I am interested in other Basics and how they effect better programmes. Applesoft I think is very low on the efficiency list!

As a hobby there is of course far too much to do and learn, to worry much about IIe deficiencies - it would be challenging and entertaining for years to come - especially if software and hardware suppliers continued to be interested.

I am currently contemplating importing a Ramcard II (512K) from America in order to cope with large numbers of packed DHRG pictures. A review sometime from a member on this card would be useful.

Well all the foregoing is a little hurried but if you have any comment I would be pleased to hear from you. My three hours run on yet another Mandelboot set plot is just about to finish, so it is time to get back to the keyboard.

It is still quicker for me to handwrite, Applewriter IIe has to be the duff programme of all word processors!! What a fiddly way to write anything - Oh for my Lexitron!

Yours sincerely,

Ian D Entwhistle
Sittingbourne
Kent

---

[REPLY]

Thank you for your very interesting letter. This is exactly what I meant when I asked for contributions from the members. We have all got a different reason for coming to use an Apple, and we have all attained different levels, and have differing problems. As a self-help group, BASUG can spread all this knowledge to further our own interests in computing. There is a great danger in the whole thing becoming too focussed, unless we hear from the members, like you, in this way.

First may I say, Applewriter IIe may be no great shakes, but is the only word-processor many have. If you had sent your contribution in on disc, it would have saved me some time typing it all in using the dreaded program! We return any discs sent in in this way, and it does save time. If you are on the FORCE or BT Gold, of course you can send in your files to me directly. This way we do not have to convert later to the MAC format!

Deadlines come and go, we accept items any time, though 5 weeks before the next production date, is really the limit. Make an article any length from a part of a page, to ten pages, if it is too boringly long, we will use the dreaded knife on it!

Any listings must be submitted on disc, too many mistakes might ensue if we typed them in! It is helpful if the programs are 'idiot proof', this should always be a consideration of a good program, but if the routine is valuable, someone can always polish it up to suit them, later.

I have various points that spring to mind on reading your letter, I will comment on them, not necessarily in order, and I will make some of them into general points that might be of help to others.

First, I notice you say your Apple runs under DOS 3.3. Of course you can run your Apple under PRODOS, DOS 3.3, CPM and PASCAL, all you need are the correct system discs. There is some confusion with some members, that it is the machine that has DOS or PRODOS built in. The system program is on disc, and so any machine can run any of the systems. One proviso though, a 48K Apple II+ cannot run the full version of PRODOS or run PASCAL, but a 16K ramcard to solve this problem is not expensive these days.

Appleworks needs Plusworks to run on a II+, and if you are lucky enough to have a 128K ramcard, Plusworks will give you a much bigger desktop than is normally available, even on an extended IIe.

A word about Ramcards here, I see you want to get a 512K ramcard. Apple have introduced a bit of a compatablity problem here. The original ramcards had their extra memory simply paged in as needed. Many programs expect this type of card and nearly all were seen with no problems.

A new standard has now been set up by Apple. The cards are treated in a different way, being used more as disc drives than ramcards, however this allows vast amounts of memory to be online. Trouble is, not many programmes yet see them, though Prodos does, and there are some differences in the compatablity between the different cards. Check the card does what you want before launching out on that expense. Cirtech, a British company, produce Flipper, and this does follow the new Apple standards.

I counted three mentions of other machines, how dare you, in Hardcore! You don't have the VAX at home do you? You must have a big garden shed! I do agree however, that Basic on machines like the B**B, is something else. The B**B is an excellent machine to learn assembly language on, as you can

bring it in in small stages as procedures, and merge with a Basic program. Applesoft is now some many years old, but if you compare it with P*T or the original TRS80 Basic, you will see that it was better than most when it was young.

Assembly language is a very difficult thing to get to grips with, the learning curve is very steep before you can actually do anything with it. I don't know of any books that make it really easy, you simply have to plug away till you can do something that works, then it is all plain sailing learning as you go.

There are two good assemblers around, though most people have their favourites, one is Apple's own Prodos based assembler, the other is Merlin, both in its DOS 3.3 and its Prodos versions. The original DOS Toolkit assembler, is OK if you are only handling small programs, but it is terribly slow when the program gets of any length.

I see you have not used the Hotline, it is there for people like you who have problems, don't be afraid to use it. Have you tried one of the clubs that meet nearby, see the list published in Hardcore. I go to one group regularly, and enjoy meeting the members. We share our problems, and advance our knowledge and horizons.

As you are doing a lot of number crunching, and you are working in Basic, have you thought of using Routine Machine, Ampersand Array or Beagles Treasure Chest. There might be a machine code routine that fits your problem, and it would run much faster than even a compiled program.

I am sure someone would like to know about Fractals, I for one only have a vague idea what they are. Write the article, I will try and fit it in. Please write some reviews on the programs you use. Even if we have done them before, a review from someone who really uses the program is always of interest, rather than someone who has only had a brief glimpse.

Finally you say that the IIe has some deficiencies (you should try a II+ sometime!), but you see that it has a future if it continues to be supported. Apple themselves have come round to this way of thinking. They are now supporting, and expanding, the //e and //c, as well as developing the MAC range.

The software now available for the enhanced //e and //c is quite stunning. Appleworks has been around sometime, but wih the addition of 3 1/4 inch drives, a 1 meg Ramcard and finally 'Pinpoint' desk accessories, you have a machine almost as powerful and as easy to use as a MAC. When you want to word-process, use 'Mousewrite' and if you want a spreadsheet use 'Mousecalc', all the ease of pointing a mouse, cutting and pasting etc. Windows and concurrent programs are available on the // series as well now!

Thank you again for your letter, come on the rest of you, let us have more like this please.

Ed.

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# APPLE SHOW 86

# A REPORT

The day dawned. A deep frost hung over the sea-lion enclosure. The sun glinted on the giant corkscrew ride. One by one the white boxes were gently placed in position. The scene was set. Apple Show 86 had begun.

BASUG was there in force. We had the best and most prominent stand in the show, and the committee, well labelled, were on hand everywhere.

Ivan Knesovich, a flash of lightning, was seen everywhere at once. He was the man with a telephone in his hand. He was the mastermind of the whole event.

It was simply the best show that this country has ever seen. It combined all the best elements of the Apple User Shows, the BASUG regional meetings, local group meetings and computer bargain basements.

Over 200 people attended. Such had been the response, Ivan had to turn people away, he had not thought that so many would want to come. The catering stretched itself, but it simply could not cope with any more.

The Mid-Apple group did wonders, they were the stewards, manning the gate and the registration. They did a magnificent job of all the signs for the BASUG stand, and they were all there to the end, clearing up. We had Dave Ward from the Hotline, manning his stand throughout the day, answering a plethora of questions. Apple UK were there in force, both the management and the technical team. They gave us a glimpse into the future with their presentation of the MacPlus.

Celtip, the local Apple dealers, had a large stand. They showed Mousedesk, and ran a Laserwriter service. We also had MacSerious, Dark Star, Greengate, Electrohome, MacTel, Computer City, MacMart and the Computer Bookshop. Just enough to keep us all interested, but not too many to swamp the day.

The MacAbusers group from Dublin were represented, and we had Alison Hjul the editor of MacUser interviewing anything that stood still long enough. Some real bargains were on offer, an Accelerator for the //e for £50, Multiplan for £10, a //c for £350 and even DOS 3.2 for £1!

Old friends met, new friends were made, many of us met people we had met on the phone or by reputation, but had never actually come face to face with. Problems were solved, deals were made. It was a very successful day in all respects.

From midday on, a series of lectures took place. They were kicked off with Richard Boyd and Ewen Wannop demonstrating how to access Telecom Gold through the FORCE, PRESTEL and BABBS bulletin board. However, the phone line was so bad to Felixstowe, that it proved impossible to get successfuly logged on to Tony Game's BABBS board.

After lunch, we were treated to a talk from Bob Sather of Darkstar, on the Shuttle. He concluded with a discussion on copy protection. MacTel then briefed us all on their Bulletin Board for the MAC.

Finally we had perhaps the greatest accolade of all, a presentation from Keith Phillips Director of Marketing for Apple UK.He was accompanied by Tony Fraser (Product Marketing and Developement Manager), Mary Ainsworth (Public Relations Executive), Richard Brown (Dealer Manager - North & Midlands Area), Andy Seymore (Technical Support Supervisor) and Ian Summerfield (Technical Support Specialist).

We were given a resume of the last twelve months and the problems that Apple had faced last year. We were then given the plan of action for the next twelve months. This included a Video presentation of the MacPlus Launch in the U.S.

## "An event that I would not have missed for the world".

We can expect a large range of new products, both for the // series and the Mac series, as both are now being treated rightly equal in importance. When asked what they actually planned to launch, Keith of course would not be drawn. But we were all intrigued by his answer, he said that if all those in the room were to pool their ideas on what they would like to see being launched, we might well be surprised and delighted by what actually appears. Finally, Apple put themselves on the line, and answered questions and criticism from the floor.

At the end of the day, all concerned were well pleased with the days events. We are resolved to have this kind of event again, and soon. All the Apple enthusiasts out there, really want and need this kind of show. The atmosphere was just right. That other Apple show, watch out ....

For the Basug committee, the day came to the perfect conclusion. Apple UK asked if they could meet us for a private brainstorm. We settled down near the bar, and much to the fascination and confusion of some of those still hanging on, had an extremely worthwhile discussion on topics of mutual interest. We can, I feel, expect a great deal of sympathetic support and liasion with Apple in the future.

An event that I would not have missed for the world. I think all those present will wish to join me in the biggest thank you we can possibly give to Ivan. He made it the most memorable day possible in the Apple calendar for this year.

## This is my life (Applewise).

## by John Lee

Greetings to all the many members of the Apple family out there in the wide wide world. There follows a small dissertation on my use of the Apple, and how it has changed my life after contracting Multiple sclerosis in my mid life. At a time when the way forward to that golden age of retirement looked rosy, and after a not uninteresting period of high activity and wonderful experience of raising a family in the Australian continent.

My introduction to the world of computers came as a sharp shock. At that time in the early 1960's it gave me many a sleepless night. I was employed as a professional model engineer in charge of a small department. It was charged with the design and production of design and test model's, for study purpose of very large construction projects for the Australian Government.

Like so many large organisations, strange building works began to appear on the site. These were later to be replaced with very large battleship grey boxes in profusion, and of course miles of multi colour cable. These were all to be operated by the white coat brigade. When all the dust of construction was cleared, and the site boffins had returned to their new dream land, there came the command from on high that this was the answer to all our dreams. Never again would we produce projects that did the required job only by luck and good will of the people concerned.

My worry, like so many at that time, was if the contraption was so good, should I take take up market gardening or some other more useful occupation. If you knew my ability in the garden you would understand that I was in a state of panic!!!

Of course the truth turned out to be totally different from what we had expected. The first people to have work done on the contraption, were the accounts departments. The result was that our pay cheques did not appear at the bank on time, and half the staff were plunged into immediate debt, or faced the bailiff. After months of worry and the usual answers being given that the computer was never wrong, they turned back to the old system, and the dust settled ever thicker on the grey boxes.

The only worth while thing to come out from the boxes, in our estimation, were the glorious girly image's, printed life size by the printer. These were programmed as a demonstration by the manufacturers of the system. One of these adorned the wall behind every draughtsman's table, and I think cost a packet of cigarette's.

In time useful work was churned out by the beast, and surprise surprise the demands on my work doubled over night. To get results out, you needed hard facts to be put in. I was convinced the computer was a good thing, and I fancied one of the special photo-identity tabs worn by all those allowed near the monster. How my image would go up in the typing pool then!

After some years had passed, I departed from government service to the outside world. No more 'Yes Minister' for me! I set myself up as a private consultant to universities, and other government departments and private industry.

The work came in thick and fast for nine years, when disaster struck with the onset of MS. A disabling disease, that is hard to cope with for a very active person. Just before this event, while in a large drawing office of a client one day, I was aware that great interest was being generated by a small cream box. This was in the process of being demonstrated by a visiting engineer from the USA.

Not to be left out, I pushed through the crowd to be confronted by my first Apple 1. It cost about £3000 plus, without any extras. I knew then one day I had to have one. Nothing more could be done about it at the time, due to large university fees for my three children, which were looming with increased rapidity.

Months later, lying in despair on a spinal bed, I was trying to come to terms with the remarks made by one of the doctors. He had said that he thought I was not going to walk again. I got to thinking about what I was going to do, and how to keep going without the ability to earn a living. I was also concerned how to keep the old brain from becoming clogged up with self pity. My thoughts went back to that cream box. This must be the answer I thought, to a whole new world of experience. Instead of dashing around, perhaps I could make the world come to me.

With our children educated and started on the road to self sufficiency, and with the advice of the medical profession, we fulfiled our ambition of returning to the UK. Soon I was able to buy one of Clives ZX80's. This little machine confirmed my ideas with regards to the use of computers for entertainment. It also showed a possible way for a disabled person to work. Although very limited a great deal of fun came out of that little unit.

Friends helped me to get hold of a CP/M machine, it had 48k of memory, but it had no software or manuals. It had come from a company that suffered liquidation. After contacting the makers agents, they kindly supplied the necessary missing software, and now I was in business. But what to do with it!.

The local Social Services had heard about my situation, and they approached me with the request that I take on the voluntary job of running a disabled information service from my home.

After a lot of work, and many hours collecting data, the local TV station featured the service in a community broadcast. The result was, that over 300 requests came in. From then on I had a purpose, but I still looked longingly at the Apple advertisements, though I was without the means to obtain one.

Finally one came my way. Once again without any software and manuals or internal boards. But with a lot of help from all sorts of wonderful people, I got it running. There was another interest I wanted to develop, this was CAD graphics. Only then perhaps, could I get back to technical work, and sometime out of the poverty trap of invalidity benefits etc. That is the stage I am at the moment.

I still have the constant need for financial help to run the disabled information service. This service is free to all callers, and all funds that come in, are used to pay the phone bills and other running costs. With my personal project of CAD graphics as well, my time is taken up to the full. All this depends on my friend the "Apple IIe".

I have been able to introduce some other disabled friends to the world of computing, with good results. This is one area that needs to be developed, but is held back by the one great problem of cost. For to try to live on minimal income, leaves nothing for this type of equipment. There is some help available from government departments, but it is only a drop in the ocean.

I look forward to the future, and hope cheap and easy access to large databases becomes a reality. This could be similar to the local library, based on cheap Laser disks of files. Better graphic screens, more compatability and cheaper phone bills for data transfer. This would to the average person open up the world for anyone that is locked into the situation of immobility. All I might add, with the continuing help from my Apple.

**If I can help anyone at any time,
you can get me on ▓▓▓▓▓▓▓▓**

[Eds Note]

John is a remarkable man, though without the use of his legs, he refuses to use a wheelchair, and stomps about with great alacrity on his crutches. He has a car, and so is able to survey himself for the knowledge to feed into the information service.

He is, as he has said, running the disabled information service from his home. This has very little financial support, and he has relied on the goodwill of various firms and private individuals, to provide the hardware and software he needs to run the service.

He also does work with other disabled people, and has found programmes like the Software Automated Mouth, of use when working with deaf and dumb children.

IF YOU HAVE ANY EQUIPMENT
THAT MAY BE OF USE TO JOHN
AND HIS FRIENDS I URGE YOU TO
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NEW LEASE OF LIFE

## New breakthrough in search for the ultimate Pocket Word Proccessor.

## Japan beats the world ?

STOP PRESS. APRIL 86. TOKYO.

The Japanese, continually trying to make things even smaller, have produced a new pocket word processor. The new machine comes from the long established Tekhinin company.

The secret of its compactness lies in the reduction of the chip count by using a dedicated 7 bit microprocessor. The ASCII code only needs 7 bits to operate so there is a saving of one Ram chip.

The 1 megabyte on board memory, is paged into 4096 pages. These pages are each sudivided into 64 chapters of leafed memory. Instead of the usual stack they use a special 'index' page to store the system pointers.

The keyboard has been specially miniaturised into an array of 9 by 6 keys. Each of these keys has eight shift modes, thus allowing all the normal keys to be selected with the stylus provided.

A new miniaturised LCD display, with self contained touch controls, can scroll through the text in all directions at once. They have developed a unique magnifying lens allowing the small print to be made readable.

Neatly set into the bottom of the machine is an ink jet printer. Altogether, it is an impressive specification. The printer, to save space, uses easily available four inch wide rolls of perforated paper.

The whole unit is powered by a thermal device, requiring only an ambient temperature difference to recharge the built in battery. A 30 second blast of hot air suffices to run the machine for at least an hour.

The Japanese plan to shortly bring out an alternative system ROM that will allow simultaneous translation of up to three languages. The first ROM to be made available, is thought to be an English to Dutch version, with two different dialects of Dutch.

Deliveries in quantity at expected by April 1st 1987 and the device is to be sold at a price of £199, and should find a ready market as a direct competitor to the Amstrad. The only worry seems to be that the Japanese can manage to get into full production before the Sinclair version is announced later this month.

## DISC ZAPS AND ALL THAT (Part 2)
### Tinkering with the disc
### by EWEN WANNOP

In last month's article, I explained how to use Disk Manager. I will now launch you into the forbidden sectors of the DOS 3.3 disc. But first there are two important things to say. All the addresses I will give will be in Hexadecimal, that is to a base 16, counting from $0 through $F, the dollar sign is standardly used by Apple to signify a value in HEX. You will notice that in most computer numerology, the first number is $00, this means that the sixteenth number will be $0F. This off-by-one effect, can cause innumerable confusions and bugs in your programs if you do not understand it. Secondly before you go any further, copy the disc you are going to work on, and ONLY use the copy. I will not be held responsible for any fatal mistakes ....

I mention the 'hi-bit' quite often. Printable ASCII values run from $20 to $7F. The Apple tends to use these with the hi-bit, bit 7 set, thus running from $A0 to $FF. Sometimes however it has it off and they run from $00 to $7F. Simply use them from the appropriate range as and when they are referred to.

The DOS 3.3 disc, although it has $23 times $10 or $230 sectors, only $1F0 are available normally to you as the user. Tracks $00-$02 are used by the DOS image itself, and track $11 is used for the Catalog track and other information such as a disc map. A hint here, you will find that although DOS marks the disc as using all of Track $02, in fact it only uses Sectors $00 through $04. This means that $11 sectors are not used, and wasted. You can put secret messages on these if you like.

However, although these $04 tracks are not immediately accessible to you from Basic or from DOS itself, we can do some interesting things using Disk Manager if we fiddle about with them. So here we go, boot up Disk Manager, and put your working copy in the drive, select the Disc Patch option, and away we go ...

How many times have you wished you could auto-boot into your favourite program, instead of having to end up in Basic, and do a BRUN or an EXEC. Help is at hand. We have to do two things however, change the boot name from HELLO to the required program name, and change the type of file that DOS is looking for on boot.

First we change the name, to do this we read in Track $01 Sector $09, and at offset +$75, you should see the current boot filename. This is in ASCII with the hi-bit set. If you do not have a table of ASCII into HEX, you will have to work it out yourself, start with capital 'A' as HEX $C1. You must put in spaces, $A0, to pad over any characters left from the previous name. The maximum length is thirty characters long. Now write the changed sector back to disc, and read in Track $00 Sector $0D. At offset +$42 you will find the value of $06 for a normal DOS disc. Change this to one of the following, and write the sector back to disc. Use $06 for Applesoft boot files, $34 for Binary files and $14 for EXEC files. Thats all you need to do, and away you go.

While we are in the DOS tracks, take a look at Track $01 Sectors $07, $08 and $09. You will see lots of the disc messages and commands that DOS uses. Provided you do not make the length of these entries greater than they are, you can rename to your hearts content.

Why not 'SHOW.ME' instead of 'CATALOG'? Note that in the commands, you cannot have a space in the name. The ASCII is put in with the hi-bit off except for the last character which has it set. This means that we can put in shorter names, ending with the last character having the hi-bit set. You can fool your friends thoroughly this way, and yourself, if you forget what you have changed them to!

Now read in Track $02 Sector $02, and look at the bytes $AF through $BA, notice that they spell ' EMULOV KSID'. Look familiar? Well it is 'DISK VOLUME ' backwards, so we can change to 'FRED'S DISK ' or any message you want provided that it fits twelve characters. You should have a space at the end, as the volume number is printed by DOS after this string. Remember to put it all in backwards, all of this string has the hi-bit set.

Finally, this month, let us look at the Catalog tracks. Read in Track $11 Sector $0F. This is the first sector of the Catalog, the Catalog runs for the next fourteen sectors down to Sector $01. You will see the filenames listed there, and lots of other numbers. Don't try to alter these other numbers yet, but change the filenames if you want. They are thirty bytes long from the first character, and should end in spaces, $A0, to fill if needed. The hi-bit is set here.

You can be clever and put in lower case characters, or even put in inverse characters, or even cursor commands. Try it and see, if it doesnt work, make a new copy of the disc, and try again. To make inverse characters, set the ASCII running from $00 to $1F with capital 'A' being $01. Flashing ones run through $40 to $5F with capital 'A' being $41 Cursor commands are, $8A as line feed, $88 as backspace. This is how the funny Catalogs you may have seen on some discs, are done.

That's all for this month, next edition I will tell you how to look at files, and restore a Catalog that has been destroyed.

For those who still cannot think in Hexadecimal, this might help:

| | |
|---|---|
| $0 = 0 | $8 = 8 |
| $1 = 1 | $9 = 9 |
| $2 = 2 | $A = 10 |
| $3 = 3 | $B = 11 |
| $4 = 4 | $C = 12 |
| $5 = 5 | $D = 13 |
| $6 = 6 | $E = 14 |
| $7 = 7 | $F = 15 |

# PLUSWORKS XM

## A REVIEW
## by Dave Ward

Some time after the introduction of the Apple //e , early in 1983 , AppleWorks an integrated spreadsheet, database & wordprocessor was marketed. AppleWorks is a relatively simple but excellent and easy to use product. However, Apple Computer Inc. in their wisdom only made it compatible with 64K and 128K Apple //e and Apple //c computers with an Apple compatible 80 column card in the auxiliary slot. AppleWorks will not work in Apple ][ and Apple ][ plus computers or for that matter any of the 'look-alikes'.

You might be forgiven for thinking that Apple Computer Inc. were not interested in loyal Apple ][ and Apple ][ plus owners many thousands of whom would want to purchase such an excellent program even if some of the Apple //e special keys had to be simulated. You can't even borrow a copy of the AppleWorks demonstration diskettes from your dealer to convince yourself that you need AppleWorks because they will only run on Apple //e and //c computers. Some Apple ][ owners might even have purchased an Apple //e on the strength of it!

Fear not however, Norwich Data Systems of New York State in the USA have come to the rescue with PLUS-WORKS. PLUS-WORKS is a 'utility' diskette which modifies a copy! of your AppleWorks startup diskette so that it will run on 64K Apple ][ and Apple ][ plus computers with most 80 column cards. PLUS-WORKS is claimed to modify all versions of AppleWorks 1.0 1.1 1.2 & the latest 1.3 release. Also most of the popular 80 column and memory expansion cards are supported.

During the last few weeks I have tried out PLUS-WORKS-XM version 3.1 on both an Apple ][ plus and an Apple //e enhanced and would like to report my observations.

The package I received was a single diskette (not write protected) with a small 10 page manual. This manual is quite comprehensive ; it describes what PLUS-WORKS does, what hardware is required and its installation. Information on how to use the modified AppleWorks and how the functions of various keys will have to change. Specific information on the Apple ][ , Apple ][ plus and full ASCII keyboards including the Franklin ACE is well detailed.

If you have sufficient memory available (more than 256K) PLUS-WORKS gives you the option of a ramdisk in which to store the AppleWorks code. This can save a lot of time because overlays do not have to be loaded from the AppleWorks program diskette. Finally a printer patch is available which may assist some users who have incompatible printer interfaces.

All in all the manual provides excellent information but in fact once you boot the PLUS-WORKS-XM diskette all you need to do is to read the instructions on the screen and act accordingly ; the set up procedure is extremely simple.

For interest I will quickly run through a few set ups for both Apple ][ plus and Apple //e enhanced, however, the initial few steps are identical for all computers.

1> Write protect your copy of PLUS-WORKS-XM diskette and make a copy onto another diskette using any normal Apple diskette copier. PLUS-WORKS is not on a copy-protected diskette so don't try copying with a nibble-copier as these programs are usually very slow and much less reliable than normal copiers such as copyA.

2> Write protect your AppleWorks startup and AppleWorks program as they are not already so protected. Also make copies of these as you did for the PLUS-WORKS diskette. AppleWorks too is not copy-protected. Always use an unpatched copy of AppleWorks for use with PLUS-WORKS. A useful tip here is to use both sides of a diskette copying the AppleWorks program diskette to the mainside and the AppleWorks startup diskette to the flipside. You will, of course, have to cut another write-enable notch to allow writing to the flipside.

3> Simply place the PLUS-WORKS diskette into drive 1 and boot it up. Almost instantly you are greeted with the following legend.

INSERT APPLEWORKS STARTUP DISK
IN DRIVE 1 AND PRESS A KEY

4> Proceed as directed and insert your AppleWorks startup diskette, hit any key and you will see the following message within a couple of seconds.

INSERT THE PLUS-WORKS DISK
IN DRIVE 1 AND PRESS A KEY

5> Following the above directive quickly produces the copyright notice shown below and a choice of the 80 column cards also listed below.

PLUS-WORKS-XM V3.1
COPYRIGHT 1985 BY
NORWICH DATA SERVICES, LTD

VIDEOTERM-ULTRATERM
MULTIVIEW 80/160
SMARTERM II
SMARTERM
FRANKLIN
APPLE IIE
WIZARD 80
VISION 80
FULL VIEW 80
VIEWMASTER 80
SUP'R TERMINAL
VIEWMAX 80-MAGNUM 80

Quite a comprehensive list I'm sure you will agree but I have only been able to test the Videx Videoterm in an Apple ][ plus and the enhanced Apple //e with compatible 80 column card.

6> After choosing the desired 80 column card you will be requested to enter the memory card in your Apple. Note that the extended 64K memory in the Apple //e 80 column card cannot be used.

LEGEND OR TITAN(SATURN) RAM CARD
APPLE II MEMORY EXPANSION CARD
128K DISCO-RAM FROM ORBITAL
128K Q-DISK FROM MICRO TEK
64K CP/M CARD FROM PCPI
AP-33 BY IBS
NO RAM CARD

Well, the preliminaries are over so now lets look at a few actual installations. Each assumes that you have carried out the aforementioned preliminary steps up to the 80 column card menu above :-

A} Apple ][ plus
   Videx 80 column card in slot 3
   Saturn 128K byte ramcard in slot 2

Follow through the preliminary setup and choose the Videx option from the 80 column card menu ( option 1). Then the Saturn 128K card from the memory card menu ( option 1). After this the screen should be switched to 80 columns and you will be asked to indicate the keyboard type :-

    1> Standard II/II+ with shiftkey modification.
    2> Franklin ACE 1200
    3> Other full ASCII keyboard with upper and lower case.

Choose <1> for Apple ][ plus and a new screen appears informing you which keys have been re-mapped to simulate special Apple //e keys. To prove that you have a shiftkey modification you are requested to press the shiftkey to proceed.

Next you are faced with a new screen allowing you to add a printer patch to set the high bits of bytes being sent to the printer interface card. You are advised not to use this option unless you get problems. So we press <N> for the present.

The screen is cleared and you are informed that the display is being tested followed by the installation of the display driver on your AppleWorks startup diskette. Hereabouts you will be requested for the slot in which your ramcard resides in this case, of course, press 2. Next the memory driver is configured which involves more writing to the diskette.

Finally you can increase the maximum number of records in the database to 4222 but it will cost you 8K bytes of memory. To reject this fine offer you just press control-reset and AppleWorks boots up with 136K bytes of desktop space! Had your Saturn 128K card been in slot zero then you would have only 120K for your desktop.

B} Apple ][ plus
   Videx 80 column card in slot 3
   Flipper 1 megabyte ramcard in slot 4

Well this installation is virtually the same as above! The first difference is that you choose the second option in the memory card menu - APPLE II MEMORY EXPANSI_N CARD since the Flipper follows the Apple protocols for large memory boards. The next difference is that you will not be asked for the slot in which the Flipper resides because PLUS-WORKS does that for you. Before the memory driver is written to the disk you will be asked if you would like the AppleWorks code placed in a ramdisk. This, of course, saves a lot of time because trips to the AppleWorks program diskette are almost reduced to zero.

You get nothing free so this costs 140K bytes of memory taken from the desktop. Also AppleWorks will take about 1 minute longer to boot up. This option is only available if you have more than 256K bytes on tap!

There's so much spare memory floating about that we can afford to be prodigal and pay the 8K bytes fine for those extra records in the database. So when requested place the PLUS-WORKS diskette into drive 1 and press carriage return. Next you will be requested to place AppleWorks startup diskette into drive 1 and after a few seconds you will be asked to put in the AppleWorks program diskette Writing to this diskette takes about 15 seconds. When this is done boot up AppleWorks startup diskette and you will be presented with a desktop of 880K bytes.

C} Apple //e enhanced
   Apple compatible 80 column card in auxiliary slot
   Flipper 1 megabyte memory card in slot 4

This setup is very similar to the previous one except that PLUS-WORKS determines that you have an Apple //e and therefore does not request information on the type of keyboard.

The following table shows the desktop size you might expect for various configurations :-

| MACHINE | MEMORY CARD | DESKTOP SIZE |
|---------|-------------|--------------|
| Apple ][ plus | none | 10K |
| Apple //e | 64K auxiliary ** | 55K |
| Apple ][ plus | Saturn 128K (slot 0) | 120K |
| Apple ][ plus | Saturn 128K (slot 1-7) | 136K |
| Apple //e | Saturn 128K | 136K |
| Apple ][ plus | Flipper 1 megabyte | 1024K |
| Apple //e | Flipper 1 megabyte | 1024K |

** You don't need PLUS-WORKS for this configuration. It is included for comparison purposes. It also appears that you can only use one memory card to expand AppleWorks.

VERDICT:

If you have an Apple ][ , Apple ][ plus or an Apple look-alikeand wish to use AppleWorks then PLUS-WORKS is for you. Having tested the utility for some months on an Apple ][ plus with Videx 80 column card and Saturn 128K ramcard I can recommend PLUS-WORKS to any Apple ][ user who wants the ease of use and versatility of AppleWorks which is perhaps one of the best professional packages written for the Apple // family of computers. Even Apple //e owners are not left out because they can benefit from large memory boards that would normally lie dormant.

# HIGH QUALITY....

## RESOLUTION 64

The RESOLUTION 64 is the latest release from ROSCO, giving an 80 column screen and full 64K memory expansion. It doubles the resolution of the hi-res page and is compatible with DOS, ProDOS, CP/M and PASCAL. The RESOLUTION 64 is a direct replacement for the Apple Extended 80 Column Card at a quarter of the price. A standard RESOLUTION card is also available with 1K of static RAM. For use on the //e only.

RESOLUTION.............................. ROS 104......£28
RESOLUTION 64............................ ROS 103......£55
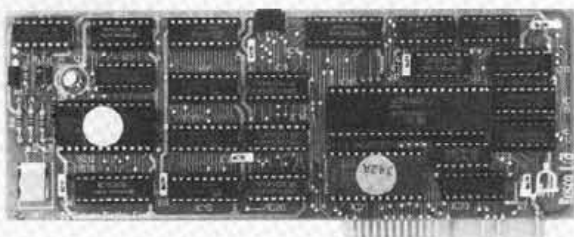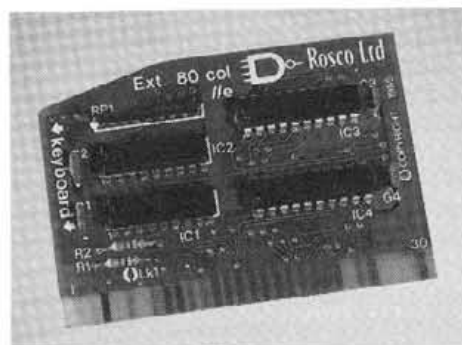
## 80 COLUMN ][

For the user with the older Apple ][, ][+ or EUROPLUS models, the 80 COLUMN ][ card is essential for many applications. The card gives a full 80 Column display with upper and lower case characters (from a standard keyboard!) and many text editing features. The on-board firmware gives all standard characters as well as special graphic symbols in normal or inverse display. The card is supplied with the appropriate monitor lead and optional video-changeover slot switches are available.

80 COLUMN ][ ................ ROS 105 .....£54
SLOT 40/80 SWITCH........ ROS 101 .....£12

## PARAGRAPH

The PARAGRAPH is the tried and trusted printer interface from ROSCO. It conforms to the Centronics parallel standard giving compatibility with the majority of printers. The on-board firmware gives many text and graphic printing features such as INVERSE, ROTATE, BOLD IMAGE, ENLARGE, etc. The PARAGRAPH is compatible with DOS, ProDOS, CP/M and PASCAL and is supplied with a printer lead and full manual. Buffered versions are also available with 16 or 64K of RAM.

PARAGRAPH.............. ROS 107 ....£44
PARAGRAPH 16........... ROS 110 ....£90
PARAGRAPH 64........... ROS 111 ...£120
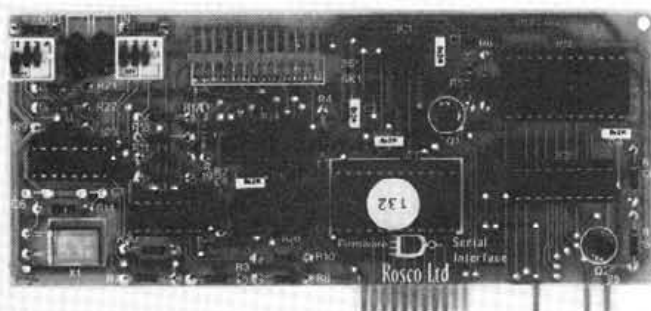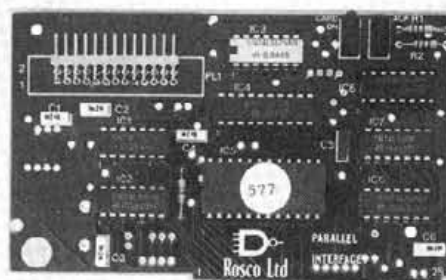
## SER - COM

The SER-COM is a serial communications and printer card which conforms to the RS 232C standard but which gives extra functions such as switchable on-board firmware for custom applications. LED input/output indicators and minimum mode operation for three wire communication The SER-COM supports all common baud rates between 50 and 19,200 and is supplied with the appropriate connector lead.

SER-COM...................... ROS 106 ........ £48

```
1 REM ********************
2 REM * CALENDAR PROGRAM *
3 REM * NOV 1985 *
4 REM ********************
6 GOTO 10
7 PRINT CHR$ (4);"SAVE CALENDAR": TEXT
   : HOME
8 INVERSE : PRINT " CALENDAR SAVED ":
   NORMAL : END
10 DIM N$(12,31),MO$(12)
20 L$ = CHR$ (124):D$ = CHR$ (4)
30 DA$ =
   "3128313031303131303031313031":SLOT
   = 1
40 FOR I = 1 TO 12: READ A$:MO$(I) =
   A$: NEXT
50 DATA January,February,March,April,
   May,June,July,August,September,
   October,November,December
60 DEF FN M(X) = ((X / 4 - INT (X /
   4)) * 4): DEF FN W(X) = ((X / 7 -
   INT (X / 7)) * 7)
100 GOSUB 20000: REM TITLE PAGE
110 HOME : VTAB 10: HTAB 11: PRINT
   "<JUST A MOMENT...>"
115 GOSUB 20400
   120 YE = 1986:NOO = 1
130 ONERR GOTO 11000
140 SAV = 0
150 Y = YE: GOSUB 7070:Y = 0
160 POKE 216,0
170 NOO = 0
500 REM ** MENU **
510 HOME : PRINT : PRINT
520 PRINT "APPLE CALENDAR";: HTAB 20:
   PRINT "For the JOB"
530 NORMAL
540 VTAB 8: PRINT "1. PRINT CALENDAR"
550 VTAB 10: PRINT "2. ENTER/EDIT
   IMPORTANT DATES"
560 VTAB 12: PRINT "3. ENTER HOLIDAYS"
570 VTAB 14: PRINT "4. LIST IMPORTANT
   DATES"
580 VTAB 16: PRINT "5. QUIT"
590 VTAB 22: INVERSE : PRINT " CHOICE:
   ";: NORMAL
600 GET A$:I = VAL (A$)
610 IF I < 1 OR I > 5 THEN PRINT CHR$
   (7): GOTO 510
620 ON I GOTO
   1000,3000,4000,5000,10000
1000 REM ** PRINT CALENDAR **
1010 A$ = "PRINT CALENDAR": GOSUB 8000
1020 VTAB 8: HTAB 1: PRINT "FROM MONTH
   (JAN): ";: CALL - 868
1030 VTAB 10: HTAB 1: PRINT "THRU MONTH
   (DEC): ";: CALL - 868
1040 VTAB 12: HTAB 1: PRINT "YEAR
   (";YE;"): ";: CALL - 868
1050 VTAB 14: HTAB 1: PRINT " OK?
   (Y): ";: CALL - 868
1060 VTAB 8: HTAB 19: CALL - 868:
   INPUT "";A$
1070 IF A$ = "^" THEN 500
1080 IF A$ = "" THEN A$ = "JAN": VTAB
   8: HTAB 19: PRINT "JAN"
1090 GOSUB 1280: IF ERR THEN 1060
1100 F = VAL (A$)
1110 VTAB 10: HTAB 19: CALL - 868:
   INPUT "";A$
1120 IF A$ = "^" THEN 500
1130 IF A$ = "" THEN A$ = "DEC": VTAB
   10: HTAB 19: PRINT "DEC"
1140 GOSUB 1280: IF ERR THEN 1110
1150 T = VAL (A$)
1160 IF F > T THEN PRINT CHR$ (7);:
   GOTO 1060
1170 VTAB 12: HTAB 14: CALL - 868:
   INPUT Y$
1180 IF Y$ = "^" THEN 500
1190 IF Y$ = "" THEN Y$ = STR$ (YE):
   VTAB 12: HTAB 14: PRINT Y$
1200 Y = VAL (Y$): IF Y < 1986 OR Y >
2000 THEN PRINT CHR$ (7);: GOTO 1170
1210 VTAB 14: HTAB 15: CALL - 868:
   INPUT "";A$
1220 IF A$ < > "" AND ( LEFT$ (A$,1) <
   > "Y" OR LEFT$ (A$,1) < > "y") THEN
   500
1230 VTAB 14: HTAB 15: PRINT "YES"
1233 REM LOAD FROM DISK
1235 IF YE < > Y THEN YE = Y: GOSUB
   7000
1240 GOSUB 1360: REM FIRST DAY OF
   MONTH
1250 GOTO 1500
1255 PRINT DF$: PRINT D$;"PR£0"
1260 GOTO 500
1270 REM
1280 REM ** MONTH ERROR **
1290 ERR = 0
1300 FOR I = 1 TO 12
1310 IF A$ = MID$
   ("JANFEBMARAPRMAYJUNJULAUGSEP
   OCTNOVDEC", I * 3 - 2,3) THEN 1340
1320 NEXT I
1330 PRINT CHR$ (7);:ERR = 1: RETURN
1340 A$ = STR$ (I): RETURN
1360 REM ** LOOP ON MONTHS **
1370 KK = 5
1380 YR = Y - 1986 - 1: IF YR < 0 THEN
   1430
1390 FOR I = 0 TO YR
1400 KK = KK + 365
1410 YY = 1986 + I: GOSUB 2600:KK = KK
   + LEAP
1420 NEXT
1430 MN = F - 1: IF MN < 1 THEN 1480
1450 FOR I = 1 TO MN
1460 KK = KK + VAL ( MID$ (DA$,I * 2 -
   1,2))
1465 IF I = 2 THEN YY = Y: GOSUB
   2600:KK = KK + LEAP: REM FEB IN LEAP
   YR
1470 NEXT
1480 DAY = INT ( FN W(KK) + .5): REM
   WEEKDAY OF 1ST DAY OF MONTH
1485 IF DAY = 0 THEN DAY = 7
1490 RETURN
1500 M = F - 1
1505 M = M + 1: IF M > T THEN 1570
1510 GOSUB 1580
1515 KH = KK: GOSUB 2240: REM LAST
   & NEXT MONTH
1520 KK = KH + VAL ( MID$ (DA$,M * 2 -
   1,2))
1530 IF M = 2 THEN YY = Y: GOSUB
   2600:KK = KK + LEAP
1540 DAY = INT ( FN W(KK) + .5)
1545 IF DAY = 0 THEN DAY = 7
1550 PRINT : PRINT : PRINT : PRINT :
   REM NEXT PAGE
1560 GOTO 1505
1570 GOTO 1255
1579 REM
1580 REM ** PRINT MODULE **
1581 REM
1584 EM$ = CHR$ (27) + CHR$ (69): REM
   EMPH MODE ON
1585 DF$ = CHR$ (27) + CHR$ (70): REM
   EMPH MODE OFF
1590 PRINT : PRINT D$;"PR£";SLOT
1600 PRINT : PRINT EM$
1610 M$ = MO$(M):L = LEN (M$) * 2:ND =
   VAL ( MID$ (DA$,M * 2 - 1,2))
1620 IF M = 2 THEN YY = Y: GOSUB
   2600:ND = ND + LEAP
1630 S = (78 - L - 3) / 2
1640 PRINT TAB( S); LEFT$
   ("********************",L + 3)
1660 PRINT TAB( S);"* ";
1670 FOR I = 1 TO L / 2: PRINT MID$
   (M$,I,1);" ";: NEXT I: PRINT "*";
1680 PRINT SPC( 67 - S - L);Y
1690 PRINT TAB( S); LEFT$
   ("********************",L + 3)
1700 PRINT : PRINT : FOR I = 1 TO 78:
PRINT "=";: NEXT
1710 PRINT : PRINT L$;" SUN ";L$;"
   MON ";
1720 PRINT L$;" TUE ";L$;" WED
   ";L$;" THU ";L$;
1730 PRINT " FRI ";L$;" SAT
   ";L$
1740 FOR I = 1 TO 78: PRINT "=";: NEXT
   : PRINT
1750 DAY = - DAY + 2
1760 FOR R = 1 TO 6
1770 FOR RR = 1 TO 6
1780 PRINT L$;: IF RR > 1 THEN 1870
1790 FOR I = 1 TO 7
1800 IF DAY < 1 OR DAY > ND THEN PRINT
   "  ";: GOTO 1830
1810 IF DAY < 10 THEN PRINT " ";
1820 PRINT DAY;
1830 DAY = DAY + 1
1840 PRINT "   ";L$;
1850 NEXT I
1860 GOTO 2130
1870 IF RR > 4 THEN 1920
1880 FOR I = 1 TO 7
1890 PRINT "      ";L$;
1900 NEXT I
1910 GOTO 2130
1920 FOR D = DAY - 7 TO DAY - 1
1930 IF D < 1 OR D > ND THEN SP = 10:
   GOTO 1960
1940 SP = 10
1950 IF N$(M,D) < > "" THEN GOSUB
1990:SP = LFT
1960 PRINT SPC( SP);L$;
1970 NEXT D
1980 GOTO 2130
1990 REM ** NOTES ON CAL **
2000 A$ = N$(M,D)
2005 L = 0
2007 L = L + 1: IF L > LEN (A$) THEN 2030
2010 IF MID$ (A$,L,1) = "/" THEN 2110
2020 GOTO 2007
2030 IF LEN (A$) < 10 THEN LFT = 10:
   IF RR = 6 THEN PRINT A$;:
   LFT = 10 - LEN (A$)
2035 IF LEN (A$) < 10 THEN RETURN
2040 L = LEN (A$) / 2:LFT = 10 - L
2050 IF L < > INT (L) THEN 2080
2060 IF RR = 5 THEN PRINT LEFT$
   (A$,L);"-";:LFT = LFT - 1: RETURN
2070 PRINT RIGHT$ (A$,L);: RETURN
2080 IF RR = 5 THEN PRINT LEFT$
   (A$,L);"-";: RETURN
2090 PRINT RIGHT$ (A$,L + 1);: RETURN
2100 REM ** 2 LINES OF DATES **
2110 IF RR = 5 THEN PRINT "-";: LEFT$
   (A$,L - 1);:LFT = 10 - L: RETURN
2120 PRINT "-"; RIGHT$ (A$, LEN (A$) -
   L);:LFT = 9 - LEN (A$) + L: RETURN
2130 PRINT L$;
2140 NEXT RR
2150 PRINT L$;
2160 FOR I = 1 TO 7
2170 PRINT "--------";
2180 IF I < 7 THEN PRINT "+";
2190 IF I = 7 THEN PRINT L$
2200 NEXT I
2210 NEXT R
2220 RETURN
2230 REM
2240 REM ** PRINT LAST & NEXT MONTH **
2241 REM
2245 PRINT:PRINT
2250 IF M = 1 AND Y = 1986 THEN D1 = -
   2 + 2:N1 = 31: GOTO 2290: REM DEC '86
2260 F = M - 1: IF F < 1 THEN F = 12:Y = Y - 1
2270 GOSUB 1360: IF F = 12 THEN Y = Y + 1
2280 D1 = - DAY + 2:N1 = VAL ( MID$
   (DA$,F * 2 - 1,2)): IF F = 2 THEN YY =
   Y: GOSUB 2600:N1 = N1 + LEAP
2290 F = M + 1: IF F > 12 THEN F = 1:Y = Y + 1
2300 GOSUB 1360: IF F = 1 THEN Y = Y - 1
2310 D2 = - DAY + 2:N2 = VAL ( MID$
   (DA$,F * 2 - 1,2)): IF F = 2 THEN YY =
   Y: GOSUB 2600:N2 = N2 + LEAP
2320 FOR I = 1 TO 6
2330 IF I = 3 THEN PRINT " ";: GOTO 2360
2340 IF I = 4 THEN PRINT " ";: GOTO 2360
2350 PRINT SPC( 2);
2360 PRINT SPC( 4);
2370 FOR J = 1 TO 7
2380 IF D1 < 1 THEN PRINT "   ";:D1 = D1 + 1:
   GOTO 2430
2400 IF D1 > N1 THEN PRINT "   ";: GOTO 2430
2410 IF D1 < 10 THEN PRINT " ";
2420 PRINT " ";D1;:D1 = D1 + 1
2430 NEXT J
2440 PRINT SPC( 5);
2450 FOR J = 1 TO 7
2460 IF D2 < 1 THEN PRINT "   ";:D2 =
   D2 + 1: GOTO 2510
2470 IF D2 > N2 THEN PRINT "   ";:
   GOTO 2510
```

```
2490 IF D2 < 10 THEN PRINT " ";
2500 PRINT " ";D2;:D2 = D2 + 1
2510 NEXT J
2520 PRINT
2530 NEXT I
2540 PRINT SPC( 35);MO$(M - 1 + 12 *
     (M = 1));
2545 I = LEN (MO$(M - 1 + 12 * (M =
     1)))
2550 PRINT SPC( 60 - 35 - I);MO$(M + 1
     - 12 * (M = 12))
2560 RETURN
2600 REM ** LEAP YEAR?? **
2610 LEAP = 0
2620 IF INT ( FN M(YY) + .5) = 0 AND
     YY / 100 < > INT (YY / 100) THEN LEAP
     = 1
2630 RETURN
3000 REM ** ENTER/EDIT IMPORTANT
     DATES **
3010 A$ = "ENTER/EDIT IMPORTANT DATES":
     GOSUB 8000:L = 0
3020 VTAB 8: HTAB 1: CALL - 868: PRINT
     "YEAR (";YE;"):"
3030 VTAB 12: HTAB 1: CALL - 868:
     PRINT "MONTH:"
3040 VTAB 14: HTAB 1: CALL - 868:
     PRINT "DAY:"
3050 VTAB 16: HTAB 1: CALL - 868:
     PRINT "TEXT:"
3055 VTAB 22: INVERSE : PRINT
     "^-RETURN";: NORMAL : PRINT "EXITS
     ENTRY
     ";: INVERSE : PRINT "/";: NORMAL : PRINT
     "FORCES SPACE"
3056 INVERSE : PRINT "* RETURN";:
     NORMAL : PRINT " CANCELS ENTRY ";:
     INVERSE : PRINT "RETURN";: NORMAL :
     PRINT " ACCEPTS"
3060 IF L THEN 3110
3070 VTAB 8: HTAB 14: CALL - 868:
     INPUT "";Y$
3080 IF Y$ = "" THEN Y$ = STR$ (YE):
     VTAB 8: HTAB 14: PRINT Y$;
3090 IF Y$ = "^" THEN 500
3100 Y = VAL (Y$): IF Y < 1986 OR Y >
     2000 THEN PRINT CHR$ (7);: GOTO 3070
3105 IF Y < > YE THEN GOSUB 7000:YE =
     Y
3110 VTAB 12: HTAB 8: CALL - 868:
     INPUT "";A$
3120 IF A$ = "^" THEN 3400
3130 GOSUB 1280: IF ERR THEN 3110
3140 M = VAL (A$)
3150 VTAB 14: HTAB 6: CALL - 868:
     INPUT "";A$
3160 IF A$ = "^" THEN 500
3170 DAY = VAL (A$): IF DAY = 0 THEN
     PRINT CHR$ (7);: GOTO 3150
3180 D = VAL ( MID$ (DA$,M * 2 - 1,2)):
     IF DAY > D AND M < > 2 THEN PRINT
     CHR$ (7);: GOTO 3150
3190 IF M = 2 THEN YY = Y: GOSUB 2600:
     IF DAY > D + LEAP THEN PRINT CHR$
     (7);: GOTO 3150
3200 Y$ = "": IF N$(M,DAY) < > "" THEN
     Y$ = N$(M,DAY): VTAB 17: HTAB 7: CALL -
     868: PRINT "(";Y$;")";
3210 VTAB 16: HTAB 7: CALL - 868:
     PRINT "................";: HTAB 7:
     INPUT "";A$
3220 IF A$ = "" AND Y$ < > "" THEN
     CALL - 868: VTAB 16: HTAB 7: PRINT Y$:
     GOTO 3300
3225 IF A$ = "^" THEN CALL - 868:
     PRINT "<DELETED>";:N$(M,DAY) = "":
     GOTO
     3300
3230 IF A$ = "^" THEN 3400
3240 IF A$ = "" THEN 3300
3250 IF LEN (A$) > 18 THEN PRINT
     CHR$ (7);: GOTO 3200
3260 FOR I = 1 TO LEN (A$): IF MID$
     (A$,I,1) = "/" THEN 3280
3270 NEXT : GOTO 3290
3280 IF I > 10 OR LEN (A$) - I > 9
     THEN PRINT CHR$ (7);: GOTO 3200
3290 N$(M,DAY) = A$
3300 FOR I = 1 TO 750: NEXT I
3310 L = 1
3320 VTAB 11: CALL - 958: GOTO 3030
3400 VTAB 20: CALL - 958: INPUT "SAVE
     FILE TO DISK? ";A$
```

```
3410 IF LEFT$ (A$,1) = "Y" THEN GOSUB
     6000
3420 GOTO 500
4000 REM ** ENTER HOLIDAYS **
4014 A$ = "ENTER HOLIDAYS": GOSUB 8000
4020 VTAB 8: HTAB 1: PRINT "YEAR (";YE;"):"
4030 VTAB 12: HTAB 1: PRINT "HOLIDAY:"
4040 VTAB 14: HTAB 5: PRINT "MONTH:";:
     HTAB 28: PRINT "DAY:"
4060 VTAB 8: HTAB 14: CALL - 868:
     INPUT "";Y$
4070 IF Y$ = "" THEN Y$ = STR$ (YE): VTAB 8:
     HTAB 14: PRINT Y$;
4080 IF Y$ = "^" THEN 500
4090 Y = VAL (Y$): IF Y < 1986 OR Y > 2000
     THEN PRINT CHR$ (7);: GOTO 4060
4092 IF Y < > YE THEN GOSUB 7000:YE = Y
4095 R = 0: IF Y < 1993 THEN R = (7 + Y
     - 1992) * 20
4100 RESTORE : FOR I = 1 TO 12 + R:
     READ A$: NEXT
4120 FOR I = 1 TO 20
4130 READ A$: IF VAL (A$) > 0 THEN 4300
4140 M = VAL ( RIGHT$ (A$,2)):A$ =
     LEFT$ (A$, LEN (A$) - 2)
4150 VTAB 12: HTAB 10: PRINT A$;
4160 VTAB 14: HTAB 13: PRINT MO$(M);
4170 VTAB 14: HTAB 34: CALL - 868:
     INPUT "";Y$
4180 IF Y$ = "^" THEN 4440: REM SAVE?
4190 IF Y$ = "" THEN 4410: REM NEXT
4200 DAY = VAL (Y$): IF DAY = 0 THEN
     PRINT CHR$ (7);: GOTO 4170
4210 D = VAL ( MID$ (DA$,M * 2 - 1,2)):
     IF DAY > D AND M < > 2 THEN PRINT
     CHR$ (7);: GOTO 4170
4220 IF M = 2 THEN YY = Y: GOSUB 2600:
     IF DAY > D + LEAP THEN PRINT CHR$
     (7);: GOTO 4170
4230 IF N$(M,DAY) = "" THEN 4400: REM
     FILE
4240 VTAB 20: HTAB 1: CALL - 868:
     PRINT "REPLACE ";N$(M,DAY)
4250 PRINT " WITH ";A$;: INPUT "
     OK? ";B$
4260 IF LEFT$ (B$,1) = "Y" THEN 4400:
     REM FILE
4270 VTAB 21: CALL - 868: PRINT "
     <NOT REPLACED>";
4280 GOTO 4410: REM NEXT
4300 M = VAL ( RIGHT$ (A$,2)):DAY =
     VAL ( LEFT$ (A$,2)):A$ = MID$ (A$,3,
     LEN (A$) - 4)
4310 VTAB 12: HTAB 10: PRINT A$;
4320 VTAB 14: HTAB 13: PRINT MO$(M);
4330 HTAB 34: PRINT DAY
4340 IF N$(M,DAY) = "" OR A$ =
     N$(M,DAY) THEN 4370
4350 VTAB 20: HTAB 1: CALL - 868:
     PRINT "REPLACE ";N$(M,DAY)
4360 PRINT " WITH ";A$;
4370 INPUT " OK? (Y) ";B$
4380 IF LEFT$ (B$,1) = "Y" OR B$ = ""
     THEN 4400: REM FILE
4390 VTAB 21: CALL - 868: PRINT "
     <NOT FILED>";: FOR J = 1 TO 500:
     NEXT J: GOTO 4410: REM NEXT
4400 N$(M,DAY) = A$
4410 VTAB 10: CALL - 958: VTAB 12:
     HTAB 1: PRINT "HOLIDAY:"
4420 VTAB 14: HTAB 5: PRINT "MONTH:";:
     HTAB 28: PRINT "DAY:"
4430 NEXT I
4440 VTAB 20: CALL - 958: INPUT "SAVE
     FILE TO DISK? ";A$
4450 IF LEFT$ (A$,1) = "Y" THEN GOSUB
     6000
4460 GOTO 500
4500 REM >1992
4510 DATA 01New Year's Day01,Shrove
     Tuesday,Ash Wdnesday,14Valentine's
     Day02,Mothers Day03,Palm Sunday,
     Maundy Thursday
4515 DATA Good Friday,Easter Day,Bank
     Holiday05,Ascension Day,Pentecost,
     Bank Holiday05
4520 DATA Trinity Sunday,Fathers
     Day06,Bank Holiday08,Remembrance
     Day11,25Christmas Day12,26Boxing
     Day12,New Year's Eve
4530 REM 1986
```

```
4540 DATA 01New Year's Day01,11Shrove
     Tuesday02,12Ash Wednesday02,14Valentines
     Day02,09Mother's Day03,23Palm Sunday 03,
     27Maundy Thursday03
4545 DATA 28Good Friday03,30Easter
     Day03,05Bank Holiday05,08Ascension
     Day05,18Pentecost05,26Bank Holiday05
4550 DATA 25Trinity Sunday05,15Father's
     Day06,25Bank Holiday08,09Remembrance
     Day11,25Christmas Day12,26Boxing Day12,
     31New Year's Eve12
4560 REM 1987
4570 DATA 01New Year's Day01,14Valentines
     Day02,03Shrove Tuesday03,04Ash
     Wednesday 03,29Mother's Day03,12Palm
     Sunday04,16Maundy Thursday04
4575 DATA 17Good Friday04,19Easter Day04,
     04Bank Holiday04,28Ascension Day05, 25Bank
     Holiday05,07Pentecost06
4580 DATA 14Trinity Sunday06,21Father's
     Day 06, 31Bank Holiday08,08Rememberance
     Day11,25Christmas Day12,26Boxing Day12,
     31New Year's Eve12
4590 REM 1988
4600 DATA 01New Year's Day01,
     14Valentine's Day02,16Shrove Tuesday02,
     17Ash Wednesday02,13Mother's Day03,
     27Palm Sunday03,31Maunday Thursday03
4605 DATA 01Good Friday04,03Easter Day04,
     02Bank Holiday05,12AscentionDay05,
     22Pentecost05,30Bank Holiday05
4610 DATA 29Trinity Sunday05,19Father's
     Day 06, 29Bank Holiday08,13Remembrance
     Day11,25Christmas Day12,26Boxing Day12,
     31New Year's Eve12
4620 REM 1989
4630 DATA 01New Year's Day,07Shrove
     Tuesday02,08Ash Wednesday02,
     14Valentine's Day02,05Mother's Day03,
     19Palm Sunday03,23Maundy Thursday03
4635 DATA 24Good Friday03,26Easter Day03,
     01Bank Holiday05,04Ascension Day05,
     14Pentecost05,29Bank Holiday05
4640 DATA 21Trinity Sunday05,18Father's
     Day06,28Bank Holiday08,12Remembrance
     Day,25Christmas Day12,26Boxing Day12,
     31New Year's Eve12
4650 REM 1990
4660 DATA 01New Year's Day01,14Valentines
     Day02,27Shrove Tuesday02,28Ash
     Wednesday02,25Mother's Day03,08Palm
     Sunday04,12Maundy Thursday04
4665 DATA 13Good Friday04,15Easter Day04,
     07Bank Holiday04,24Ascension Day05,
     03Pentecost06,28Bank Holiday05
4670 DATA 10Trinity Sunday06, 17Father's
     Day06,27Bank Holiday08,11Remembrance
     Day11,25Christmas12,26Boxing Day12,31New
     Year's Eve12
4680 REM 1991
4690 DATA 01New Year's Day01,12Shrove
     Tuesday02,13Ash Wednesday02,
     14Valentine's Day02,10Mother's Day03,
     24Palm Sunday03,28Maundy Thursday03
4695 DATA 29Good Friday03,31Easter Day03,
     06Bank Holiday05,09Ascension Day05,
     19Pentecost05,27Bank Holiday05
4700 DATA 26Trinity Sunday05,16Father's
     Day06,26Bank Holiday08,10Remembrance
     Sunday11,25Christmas Day12,26Boxing
     Day12,31New Year's Eve12
4710 REM 1992
4720 DATA 01New Year's Day01,14Valentines
     Day02,03Shrove Tuesday03,04Ash
     Wednesday03,29Mother's Day03,12Palm
     Sunday04,16Maundy Thursday04
4725 DATA 17Good Friday04,19Easter Day04,
     04Bank Holiday05,28Ascension Day05,25Bank
     Holiday05,07Pentecost06
4730 DATA 14Trinity Sunday06,21Father's
     Day06,31Bank Holiday08,08Remembrance
     Day11,25Christmas12,26Boxing Day12,31New
     Year's Eve12
5000 REM ** LIST DATES **
5010 A$ = "LIST DATES": GOSUB 8000
5020 VTAB 8: HTAB 1: PRINT "YEAR
     (";YE;"):"
5030 VTAB 10: HTAB 1: PRINT "FROM MONTH
     (JAN):"
5040 VTAB 12: HTAB 1: PRINT "TO MONTH
     (DEC):"
5050 VTAB 14: HTAB 1: PRINT "PRINTER OR
     SCREEN:"
```

```
5060 VTAB 8: HTAB 14: CALL - 868:
     INPUT "";Y$
5070 IF Y$ = "^" THEN 500
5080 IF Y$ = "" THEN Y$ = STR$ (YE):
     VTAB 8: HTAB 14: PRINT Y$
5090 Y = VAL (Y$): IF Y < 1986 OR Y >
     2000 THEN PRINT CHR$ (7);: GOTO 5060
5100 IF Y < > YE THEN GOSUB 7000:YE =
     Y: REM LOAD
5110 VTAB 10: HTAB 19: CALL - 868:
     INPUT "";A$
5120 IF A$ = "^" THEN 500
5130 IF A$ = "" THEN A$ = "JAN": VTAB
     10: HTAB 19: PRINT A$
5140 GOSUB 1280: IF ERR THEN 5110
5150 F = VAL (A$)
5160 VTAB 12: HTAB 17: CALL - 868:
     INPUT "";A$
5170 IF A$ = "^" THEN 500
5180 IF A$ = "" THEN A$ = "DEC": VTAB
     12: HTAB 17: PRINT A$
5190 GOSUB 1280: IF ERR THEN 5160
5200 T = VAL (A$)
5210 VTAB 14: HTAB 20: CALL - 868:
     INPUT "";A$
5220 IF A$ = "^" THEN 500
5230 IF LEFT$ (A$,1) = "S" THEN 5260
5240 IF LEFT$ (A$,1) < > "P" THEN
     PRINT CHR$ (7);: GOTO 5210
5250 PRINT D$;"PR£";SLOT
5255 PRINT : PRINT : PRINT
5260 HOME
5270 A$ = "DATES LIST: " + STR$ (Y)
5280 PRINT TAB( 12);A$
5290 A$ = MO$(F) + " THRU " + MO$(T)
5300 PRINT TAB( (40 - LEN (A$)) / 2);A$
5310 PRINT : PRINT
5320 FOR M = F TO T
5330 PRINT : PRINT MO$(M)
5340 FOR D = 1 TO 31
5350 IF N$(M,D) = "" THEN 5370
5360 PRINT TAB( 3);D; TAB( 7);N$(M,D)
5370 NEXT D
5380 NEXT M
5385 PRINT CHR$ (12)
5390 PRINT D$;"PR#0"
5400 PRINT : INPUT " <HIT 'RETURN' TO
     CONTINUE>...";A$
5410 GOTO 500
6000 REM  ** SAVE TO DISK **
6010 ONERR GOTO 11000
6015 SAV = 1
6020 PRINT " (";YE;: INPUT ") ARE YOU
     SURE? ";B$
6030 IF LEFT$ (B$,1) = "N" THEN 6160
6040 IF LEFT$ (B$,1) < > "Y" THEN
     PRINT CHR$ (7): GOTO 6020
6050 B$ = "CAL.FILE-" + STR$ (YE)
6060 PRINT D$;"UNLOCK ";B$
6070 PRINT D$;"OPEN ";B$
6080 PRINT D$;"WRITE ";B$
6090 FOR M = 1 TO 12
6100 FOR D = 1 TO 31
6110 PRINT N$(M,D)
6120 NEXT D
6130 NEXT M
6140 PRINT D$;"CLOSE ";B$
6150 PRINT D$;"LOCK ";B$
6160 POKE 216,0: REM OFF ONERR
6170 PRINT CHR$ (7)
6180 RETURN
7000 REM  ** LOAD FROM DISK **
7010 SAV = 0
7020 VTAB 20: PRINT Y;" FILE NOT IN
     MEMORY."
7030 INPUT "LOAD FROM DISK? ";B$
7040 IF LEFT$ (B$,1) = "N" THEN 7200
7050 IF LEFT$ (B$,1) < > "Y" THEN
     PRINT CHR$ (7);: GOTO 7030
7060 ONERR GOTO 11000
7070 B$ = "CAL.FILE-" + STR$ (Y)
7080 PRINT D$;"OPEN ";B$
7090 PRINT D$;"READ ";B$
7100 FOR M = 1 TO 12
7110 FOR D = 1 TO 31
7120 INPUT N$(M,D)
7130 NEXT D
7140 NEXT M
7150 PRINT D$;"CLOSE ";B$
7160 POKE 216,0: PRINT CHR$ (7);: REM
     OFF ONERR
7170 RETURN
7200 PRINT " <CLEARING OLD DATE FILE>"
```

```
7210 FOR M = 1 TO 12
7220 FOR D = 1 TO 31
7230 N$(M,D) = ""
7240 NEXT D
7250 NEXT M
7260 PRINT CHR$ (7);
7270 RETURN
8000 HOME : PRINT
8010 A$ = " " + A$ + " ": HTAB (40 - LEN (A$)) / 2
8020 INVERSE : PRINT A$: NORMAL
8030 PRINT
8040 RETURN
10000 REM    ** QUIT **
10005 A$ = "QUIT": GOSUB 8000
10010 VTAB 5: CALL - 868: PRINT "ARE
      YOU SURE? ";: GET A$
10020 IF LEFT$ (A$,1) = "N" THEN 500
10030 IF LEFT$ (A$,1) < > "Y" THEN
      PRINT CHR$ (7);: GOTO 10010
10040 VTAB 10: PRINT "APPLE CAL"; TAB(
      23);"BY GLEN TEMAN"
10050 VTAB 20: HTAB 10: PRINT "<G O O D
      B Y E!!>"
10060 PRINT : END
11000 REM   ** ONERR **
11010 ERR = PEEK (222)
11020 L = PEEK (218) + PEEK (219) *
      256: CALL 768: REM  FIX STACK
11030 ON (ERR) GOTO
      11040,11040,11040,11080,11130, 11190,
      11040,11220,11260
11040 REM  -UNIDENTIFIED ERROR
11050 PRINT : PRINT "ERROR: "; CHR$ (7);
      ERR
11060 PRINT " ON LINE ";L; CHR$ (7)
11070 PRINT : END
11080 REM  -WRITE PROTECTED
11090 PRINT " <WRITE PROTECTED -
      INSERT NEW DISK>"
11100 PRINT " <AND HIT 'RETURN'>: ";:
      GET A$
11120 GOSUB 6070: GOTO 500
11130 REM  -END OF DATA
11135 REM  ('LOAD FROM DISK' ERROR)
11140 IF SAV = 1 THEN 11040
11150 PRINT D$;"DELETE ";B$
11160 VTAB 20: CALL - 868
11165 IF NO O THEN 160
11170 PRINT "<FILE NOT FOUND!>"
11180 POKE 216,0: GOSUB 7200: GOTO 500
11190 REM  -FILE NOT FOUND
11195 REM  ('SAVE TO DISK' ERROR)
11200 IF SAV = 0 THEN 11040
11210 GOSUB 6070: REM  SKIP 'UNLOCK'
11215 GOTO 500
11220 REM  -I/O ERROR
11230 PRINT " <I/O ERROR-INSERT NEW
      DISK>"
11240 PRINT " <AND HIT 'RETURN'>: ";:
      GET A$
11245 IF SAV = 1 THEN GOSUB 6060: GOTO
      500
11250 IF SAV = 0 THEN GOSUB 7080: GOTO
      500
11260 REM  -DISK FULL
11270 PRINT D$;"DELETE ";B$
11280 PRINT "<DISK FULL- INSERT NEW
      DISK>"
11290 PRINT " <AND HIT 'RETURN'>: ";:
      GET A$
11300 GOSUB 6070: GOTO 500
20000 REM   ** TITLE PAGE **
20005 TEXT : HOME :L = 25
20007 PRINT CHR$ (7)
20010 VTAB 8: HTAB 9: PRINT
      "••••••••••••••••••••••"
20020 VTAB 12: HTAB 9: PRINT
      "••••••••••••••••••••••"
20030 VTAB 9: FOR I = 1 TO 3
20040 HTAB 9: PRINT "•••";: HTAB 29: PRINT "•••"
20050 NEXT I
20055 FLASH
20060 VTAB 10: HTAB 11: PRINT
      "A P P L E  C A L"
20065 NORMAL
20070 VTAB 18: HTAB 23: PRINT "BY GLEN
      TEMAN"
20075 REM :VTAB 19: HTAB 23: PRINT "BY
      MICHAEL GRAYER"
20080 POKE - 16368,0
20090 VTAB 23: PRINT " <HIT ANY KEY
      TO CONTINUE...>"
20100 FOR I = 1 TO 2 STEP 0
```

```
20110 VTAB 8: FOR J = 9 TO 28
20120 HTAB J: PRINT " ";
20130 FOR D = 1 TO L: NEXT D
20140 HTAB J: PRINT "•";
20150 NEXT J
20160 IF PEEK ( - 16384) > 127 THEN 20350
20170 FOR J = 8 TO 11
20180 VTAB J: HTAB 29: PRINT " ";
20190 FOR D = 1 TO L: NEXT D
20195 HTAB 29: PRINT "•";
20200 NEXT J
20210 IF PEEK ( - 16384) > 127 THEN 20350
20220 VTAB 12: FOR J = 29 TO 10 STEP - 1
20230 HTAB J: PRINT " ";
20240 FOR D = 1 TO L: NEXT D
20250 HTAB J: PRINT "•";
20260 NEXT J
20270 IF PEEK ( - 16384) > 127 THEN 20350
20280 FOR J = 12 TO 9 STEP - 1
20290 HTAB 9: VTAB J: PRINT " ";
20300 FOR D = 1 TO L: NEXT D
20310 HTAB 9: PRINT "•";
20320 NEXT J
20330 IF PEEK ( - 16384) > 127 THEN 20350
20340 NEXT I
20350 POKE - 16368,0
20360 PRINT CHR$ (7)
20370 RETURN
20400 REM   ** FIX STACK ONERR **
20405 REM   FROM APPLE REFERENCE
      MANUAL, PG 136
20410 A$ =
      "104168104166223154072152072096"
20420 FOR I = 1 TO 10
20430 POKE 767 + I, VAL ( MID$ (A$,I *
      3 - 2,3))
20440 NEXT
20450 RETURN
```

# LOCAL CLUB CONTACTS

### Herts and Beds Group

Contact:- Norah Arnold, ▓▓▓▓▓▓▓▓
Meets at 8 p.m. on the first Tuesday of each month.
Venue:- The Old School, 1 Branch Rd, Park Street Village,
St Albans, Herts.

### Croydon Apple Users Group

Contact :-Graham Attwood, ▓▓-▓▓▓▓▓▓
New Venue being sought.
Normally meets 3rd Monday of month.

### London Macintosh Group

Contact:- Maureen de Saxe, ▓▓▓ ▓▓▓ ▓▓▓▓
Meets at 6 p.m. on the second Tuesday of each month.
Venue:- Room 685, London University Institute of Education,
Bedford Way, London, WC1.

### Furness Group

Contacts:- Alan Curtiss, ▓▓▓▓ ▓▓▓▓▓
            Tom Iddon, ▓▓▓▓ ▓▓▓▓▓

### Essex Group

Contact:- Pat Bermingham, ▓▓▓▓ ▓▓▓▓▓▓
Meets on the third Friday of each month.
Venue:- The Y.M.C.A., Victoria Road, Chelmsford.

### Hants and Berks Group

Contact:-Mike Hollyfield, ▓▓▓▓ ▓▓▓▓▓▓
Meets at 7 p.m. on the second Monday of each month.
Venue:- Bracknell ITEC, Fitzwilliam House (3rd floor),
Skimped Hill Lane, Bracknell.

### Birmingham Group (MidApple)

Contact:-William Watson, ▓▓▓▓▓ ▓▓▓▓▓▓
Meets at 7 p.m. on the second Friday of each month.
Venue:- I.T.E.C. Tildasley St, West Bromwich.

### Harrogate Group

Contact :-Peter Sutton, ▓▓▓▓ ▓▓▓▓▓▓

### Kent Group

Contact :-Dougal Hendry, ▓▓▓▓▓ ▓▓▓▓▓

### Glasgow Group

Contact:-Donald Davidson, ▓▓▓▓ ▓▓▓▓▓▓

### London Apple II Group

Contact :-Abe Savant, ▓▓▓ ▓▓▓ ▓▓▓▓

### Bristol Group (B.A.U.D.)

Contact :-Mike Farmer, ▓▓▓▓▓ ▓▓▓▓▓▓
Meets on the first Friday of each month at 7.30 p.m.
Venue:- Bristol Maternity Hospital.

**If these details are incorrect please notify Norah Arnold at the P.O.Box.**

# Letters to the Editor

P.O.Box 177, St Albans, Herts AL2 2EG

Dear Sir,

Please can you help me? I own an Apple II+ copy from Hong Kong. It has a Z80 card with an 80 column card plus CP/M software. My main problem at the moment is finding two utility programs SYSGEN and MOVCOPM. I hope you may be able to help me with this problem.

A R Grimond
Liverpool

[Reply}

With regard to your request for the two CPM files SYSGEN and MOVCOPM. You do not need these files on Apple CPM.

I assume you have the normal system disc that is issued with Apple CPM cards. You should have on that disc the following programs; FORMAT, COPY and PIP. These are all that you need to create Apple CPM system discs, copy discs and transfer files.

To create a system disc, first format by issuing the instruction FORMAT A: (or drive B:), follow the prompts. Next issue COPY A:=A:/S (or drive B:), and follow the prompts. This will produce a system master, by putting a copy of the system files on the newly formatted disc.

To copy a whole disc, issue COPY A:=A: (or B:=A:). This must be done on a formatted disc. You can of course copy the whole disc with any DOS 3.3 copy program, such as COPYA.

To copy files, use PIP, and issue the instruction PIP A:newfile=A:oldfile.

There are some other copy programs available in the BASUG CPM software library, but these ones will do all you want.

---

## DO YOU HAVE A PROBLEM ?

IF SO EITHER CONTACT THE HOT LINE OR WRITE TO THE EDITOR. YOUR PROBLEM MAY INTEREST OTHER MEMBERS.

---

Kingston -Upon - Thames,
Surrey

Membership No 1796.

Thank you very much for placing the last advertisement of mine in BASUG. In fact one item was sold before the Ad appeared and the second on the day after the issue was published. I have a further item to sell and would be grateful if you could place this in the next issue of BASUG. .............

Yours sincerely,
Ken Gaston.

[Reply]

Glad to have been of service - your small ad has been placed as requested.

Ed.

---

Brize Norton,
Oxford.

Dear Editor,

In the last edition of " HARDCORE " you published my letter asking for assistance with SUBLOGIC's FLIGHT SIMULATOR, I feel I should write and tell you of the outcome of my request for help.

Within half an hour of my copy of " HARDCORE " arriving on my desk I received a telephone call from David Bridsen of "Dark STAR SYSTEMS", David kindly pointed out something I should have realised some time ago, that my "SNAPSHOT COPYKIT" was one immediate solution to my problem. The following day I received a letter from Partick Eagar who clarified the instructions in the manual for me and provided me with a second solution. Thank you both gentlemen for your speedy assistance.

So there you have it, "HARDCORE" not only delivers the goods but with such efficiency. I advise any members with a problem no matter how trivial it may seem, to write to "HARDCORE", there's a knowledegable lot out there.

I would like to take this opportunity to thank Dave Ward on the HOT LINE for his recent assistance ...........

Paul Tombling.

[Reply]

Thanks for the letter Paul - Glad we could help - You did not say if your flying has now improved ! Also please send the answer to your problem in so that we are not FLYING BLIND !

Thanks to Dave, Dave and Patrick for helping out yet again.

Ed.

Inmac (U.K.) Ltd
Bracknell, Berks.

28th February 1986

We would like to do something special for your members, a large number of whom are regular Inmac customers. We continually improve and update our product range and as a result, we sometimes get left with inventory which is no longer in our catalogue.

We currently have a quantity of Apple stands and carrying bags which we are offering to your members, ABSOLUTELY FREE - we just ask them to pay a freight and handling charge of £10.00 including V.A.T.

Will you please bring this remarkable offer to your members attention. Orders should be sent to:

Inmac (UK) Ltd., Temple Meads Estate,
5/6 Great Western Way, Bristol BS1 6HB.
Tel 0272-291667.

We will appreciate it if payment for the freight accompanies the order to keep overhead cost to a minimum. ............

R.M. Weeden
Managing Director.

[Reply]

This must be an April Fools joke surely ???
No really it is true and it will be first come - first served so send your pennies a.s.a.p. and remember where you get real bargins - HARDCORE for ALL APPLE USERS.

---

Winchester

Dear Editor,

Received the new format 'Hardcore' today and felt I must drop you this note to congratulate all concerned. A4 is the ideal size and the content excellent. To top it all, I got three mentions and the Apple III was also mentioned in a couple of articles.
Should I get any response to the suggestion of a III S.I.G. I will let you know so that you can publicise it.
I am very interested in DS3 but the author gave no details of how to get in touch!
Lastly, full marks for the mag. but please print articles on consecutive pages.

Bernard Mantell

## PUZZLE CORNER
## By Dave Ward & William Watson

## PUZZLE ONE - LOOP OUT

We would like to set you this problem. Run the following program and tell us why it does not work as might be expected!

```
10 DIM A$(100)
20 FOR M = 1 TO 999
: READ A$
: ON A$ = "END" GOTO 100
: A$(M) = A$
: NEXT
100 FOR E9 = 1 TO M - 1
: FOR M = 1 TO LEN (A$(E9))
: PRINT MID$ (A$(E9),M,1);
: NEXT M
: PRINT
: NEXT E9
110 END
63000  DATA  APPLE  II,APPLE  II+,APPLE  3,APPLE
//E,MACINTOSH,LISA
63999 DATA END
```

We hope you find this challenge interesting and we will publish the answer in the next issue.

If you have any other intriguing perplexities do let us know.

## "CAN ANYBODY HERE SPEAK POLISH?"

## by REVD WILLIAM G. REES BD,MSR.

"Can anybody here speak Polish?" That is the question I felt like asking, the first time I had experience of a Viewdata system.

I had decided that the "Mailbox" service would be most useful for me, so I subscribed to the well-known M*******t service. However, being forced to exist on various Governmental benefits and allowances, I was extremely cost- conscious. Accordingly, I purchased the cheapest system then available to me; an acoustic coupler with associated software.

Unfortunately, my initial attempt at accessing the system almost came to grief. My screen was filled with "gibberish", in the middle of which I seemed to discern the word PRCSTZL. It then asked me;
      "Plc ze rntrr your prcsmoal prsswxrd".
This I did, only to discover even more "foreign" phrases. I gave up in disgust.

The next attempt was far more successful. This time, I did get some sense from the screen. Naturally, I turned immediately to the "Hints & Tips" section. This seemed to be very helpful. until, that is, I tried the next time. Once again, I appeared to be connected to the Polish arm of BT (if there is such an organisation!) I tried some of the tips I had been given -- such as turning the acoustic modem on its side, with the handset in situ. This had no effect whatsoever on the foreign language.

The next day, I called in the BT engineers -- hoping they could help. They changed the transmitter (or "earpiece") on the telephone and -- lo and behold - the matter improved.

A few days later, though, my two year old daughter pulled the phone off the table. It ceased to work right away.
BT were very helpful; they replaced the damaged instrument immediately. As you can imagine, though, my problems also returned, just as immediately.

I was just thinking that I should contact "Crossroads" (the TV serial, not the South African township!) After all, they had had some experience with the Polish language. Either that, or perhaps some kind local fishmonger had a spare Babel Fish lying around somewhere. In desperation, I telephoned British Telecom again. Their engineer came. He changed the earpiece completely this time. The new one had a single large hole in the centre, instead of the more modern ring of small holes.
Unfortunately, it did not help this time. I was still lumbered with "Prcstzl".

Now, a kindly wife came to my aid. For my birthday, she bought me a new modem -- this time, one of the direct-connect variety. This, together with the "Prestel Driver" from the BASUG library solved all my problems.

I am now able to access the system without any difficulty.
I can even access other Bulletin Boards. I still have one difficulty, though; apparently, it does not understand Welsh!

## LETTERS TO EDITOR

Borstal,
Rochester,
Kent.

Dear Sirs,

In answer to John Stevenson's question (June 85)n the upgrade of the MX-80 to Type 3 specification. This upgrade is easily performed as it only requires that the three EPROMs in the Epson be replaced with the Type 3 EPROMs. I have been using an upgraded Type 2 for about 18 months now with complete success (with a Microbuffer interface ). I bought the upgrade kit from The Leicester Computer Centre and it came complete with the Epson operation manual.

Best Regards,

Robert Clegg.

---

Ashford
Kent

Dear Editor,

Re Mr. Anderton's letter in the February edition of Hardcore, I think I can cast some light on the misterious disk and the 'blinking underline cursor' input routine.
The routine in question is on the Applesoft sampler disk issued by Apple some time ago. It was intended as a demonstration disk and goes hand in hand with the 'Applesoft Tutorial' book.
On the disk are several example programs used in the text of the book, one of which is known as 'Magic Menu'. This is a general purpose program and can be used to generate multi-choice menus for almost any application - I have used it many times in my own programs. There are also many other programs and routines on the disk which are educational in good programming techniques and styles.
One of the routines in this program is the 'blinking underline cursor input routine'. The routine allows use of default values for input lines where required, on-line editing of text input before entry and allows the user to enter virtually anything you can type on the keyboard without crashing or corrupting input data.
If Apple agree to the release of this software perhaps it could be included in the library at some time, I think this is public domain now since the entire program is listed in the tutorial book. I must say its a 'Blinking useful routine'.

Roger Larcombe

Thanks for the suggestion about the software, Roger, we will take it up with Apple when we next meet them.          Ed.

# Apple /// News

First let me apologise for the lack of Apple /// stuff this month - I have had nothing in except this little bit obtained from the U.S.A. and which you probably know already.

The On-Three Magazine is now being published on a regular basis - Val Golding has become the full-time editor after leaving the A.P.P.L.E. Co-op. Since January it has been published on a monthly basis. If you wish to subscribe I suggest you write to them at 4478 Market Street, Suite 701. Ventura, CA 93006
The price in the States is $40 per year - so you will have to add something extra for the postage.

The /// Magazine is the successor of the /// Newsletter and although there was slight problems earlier on this is now produced on a regular monthly basis. The price is again $40 per year with all the current years back issues being sent. However remember that you will have to pay extra for postage. The address to write to is C/O Moore Enterprises, 3201 Murchison Way, Carmichael, CA 95608.

The number of books available for the /// are limited but the ones worth making a note of are:

The Osbourne/McGraw Hill Guide to your Apple /// the author being Stanley M. Miastokowski. It is a good primer and reference book - it has an overview of Business Basic.

Basic Keywords for the Apple /// by Eddie Adamis
Business Basic for the Apple /// by Eddie Adamis
These two books are straightforward, no-nonsense books that describe Business Basic and its Key Words.
I have no idea of the publisher or prices.

Public Domain Software is available for the /// however unless you have a contact in the U.S. it is going to cost money. You can get it from CompuServe (MAUG), a BBS called ///'s Company in Richmond, Virginia -Telephone 804-747-8752. Or Frank Moore of the /// magazine can arrange it.

New add ons announced in the States include a cheap hard disk from CMC Computers - No other details.

A 3.5 inch 800K drive for the /// (On Three supplies the driver).

Titan Technologies TITAN ///+2e. Turns your /// into a //e

## Any information that may help Apple /// owners would be welcomed.

## APPLE NEWS IN BRIEF

### 3,500 gather at first ever Apple World Conference

More than 3,500 people from 85 countries gathered in San Francisco for the 1986 International Apple World Conference, the first that Apple has held.
Those present included third party developers, dealers, business customers and User Groups. In 22 other U.S. cities the conference was watched live by teleconferencing facilities allowing many more to join in the event.
Mr John Sculley (President - Apple Inc) not only launched the MacPlus but also had good news for other Apple Users. He stated that Apple would give education buyers a trade in (any make) against new Apple equipment. He also stated that Lisa and Mac XL users would be given a big trade-in against MacPlus equipment.

Other promises included a 50% bigger budget on research and developement, more help to third party developers, more help and understanding in the special education market [handicapped/disabled].

The Apple ][ range is going to be expanded and enhanced and eventually brought closer towards the Mac environment. Also we can expect to see universal peripherals which will be compatable with both the // range and the Macintosh.

### Apple University Consortium hold Annual Meeting in Cambridge.

The AUC Conference at Cambridge will be attended by over 200 members and many of the top management of Apple Inc.

This is the first time such a high level conference has been held in the U.K. This shows the commitment Apple are placing in the developement of Export Markets.

We will have a report in the next issue.

# SPREADSHEET TEMPLATES

by

## Nick Hunter

A template is a guide or a form for making repeatable copies of something. Usually they are used to duplicate a shape, or set up drill holes in wood or metal. Spreadsheet templates are broadly similar - they are prefabricated overlays which calculate and display names and numbers to represent numerical situations. Instead of tracing around a sheet of metal, you pour the numbers into the form and turn a blank sheet of paper into a Balance Sheet. Templates involve pre-programmed sequences of instructions which refer to the positions of cells within a spreadsheet grid. Some of these provide labels or headings while others list the content of columns or rows. These could be cash items, areas or any measured quantity.

The main number-crunching part of a spreadsheet page is often suprisingly simple, because the every-day calculations most people use are simple sets of add, subtract and multiply. When I began this article, I set up an Appleworks database of the templates to hand - and was amazed to discover the variety of subjects available. My list now has over 250 entries, covering Business, Finance, Domestic, Educational and Scientific topics. Along with the usual Accounting, VAT and Stock Control there are forms for Daily Calories Intake, Car Expense Log and House Buying and Selling - many of the things I need to get my life into order. A template is worth setting-up for calculations which are often repeated - or to smarten up the presentation for customers or the Bank Manager. However databases are better for sorting, finding and extracting things like names and addresses.

Spreadsheets have been called:"This treasure under our noses" (Ref.1). They certainly offer cheap, reliable and fast ways to implement numerous applications - but are often overlooked because many people lack the imagination to use them. Templates must be one of the simplest ways of programming because they sit at the highest possible level of memory. You can't get much closer than on top of software. One of their great benefits is that non-programmers can use and understand them - this even includes business people who are traditionally very resistant to such things.

## THREE GENERATIONS.

Several developments over the past two years have changed the face of spreadsheets - and the different features now available allow three generations to be recognised. The older generation spreadsheets including Visicalc took lots of persuasion to fool them into allowing more than single, stand-alone templates to be set up. The Link facility offered by Multiplan was a great step forward. This allowed up to eight separate worksheets to be consolidated into a final summary - and much more sophisticated templates are now available as a result. But the big one to watch is Excel because it has macros as well as linked pages - and macros are hot stuff!

Macros allow the machine to execute complex sequences of Commands or Functions. They consist of instructions to carry out the actions you want, and can be called-up any time by name. They can include Menu Bar Commands and any of Excel's 86 functions or lengthy formulae made up at will. What this means is that templates may now include interactive macros with branching, loops and decision structures. The potential offered is breathtaking. Expect to see plenty of EXCELlent templates real soon now.

One of the first 'third generation' templates off the mark is the excellent Ultraplan suite whych runs through either Multiplan or Excel on the Mac. Ultraplan includes an easy-to-use budget in 23 templates with a further 32 management aids which allow all sorts of internal controls to be instituted.

Templates like these allow the uninitiated to achieve very professional financial presentations with minimum effort - because they are so easy to use, and modify.

## FINANCIALLY MUSCULAR...

Many standard presentations are used in Business Finance, and templates for these are widely available. The standard forms used for presenting Annual Accounts include Balance Sheet, Profit & Loss Account, and Trading P & L Accounts. These can be purchased for specific spreadsheets, or adapted from hard-copy sources if you haven't got the cash flow to buy them outright. The great advantage of templates is that they allow you to set up and modify a model and then print out a crisp report which conceals all the messy calculations.

## NOT USED ENOUGH IN SCHOOL...

Simple templates are great teaching aids, yet so far I have seen very little published about their use in education. Their ease-of-approach and orderly output is strongly reinforcing for students. They give good fast feedback, which encourages learning.

## BUT AESTHETICALLY PLEASING!

When you get towards the end of working with a template, the result can become quite refined - which is very pleasing. Because the layout is so orderly, mistakes are easier to spot - and as you cut them out the work approaches a perfection of which you can be proud.

Finally, when the content is correct you can get to work on the form side and arrange a balance between empty and filled areas. You can juggle these to give a sense of symmetry, throwing the eye to where you want it to go, so it can express your artistic creativity. Templates are very satisfying!

Ref.1:Schneider E (1984) "This treasure under our noses" MicroDecision, August 1984, p.200.

## TEMPLATE SOURCES

There are three main sources of templyte supply - books, public domain disks, and commercial templates. The following may be of interest to Apple II or Macintosh users:

1. "Mastering Appleworks" by Elna Tymes, 201pp    Publ.by Sybex, 1984 (AW)
2. "32 Visicalc Worksheets" by Ted Lewis, 175pp Publ.by dilithium Press, 1983 (VC).
3. "The Cambridge Guide to Visicalc" by Bob Mould & Fran Teo, 117pp Publ. by Cambridge University Press, 1985 (VC).

4. "Computer Spreadsheet Applications in Building and
   Surveying" by Cooke & Balakrishnan, 127pp
   Publ. by Macmillan, 1985 (VC).
5. "Visicalc Models for Business" by Cobb & Cobb, 156pp +
   40 templates Publ. by Que, 1983  (VC, also SC version).
6. "Doing Business with Visicalc" by Stanley Trost, 259pp
   Publ. by Sybex, 1982 (VC, also SC version)
7. "The Power of: Visicalc" by Williams, Taylor and King,
   184pp. Publ. by Management Information Source,
   Portland, Oregon. (VC)
8. "Visicalc Home and Office Companion" by Castlewitz &
   Chisausky, 181pp
   Publ. by Osborne/McGraw Hill, 1982. (50 VC models)
9. "54 Visicalc Models" by Robert Flast, 277pp
   Publ. by Osborne/McGraw Hill (VC)
10. "Visicalc for Science and Engineering" by Trost &
    Pomernacki, 169pp Publ. by Sybex (VC)
11. "Visicalc for Marketing and Sales" by Laric & Stiff
    Publ. by Prentice-Hall (VC - also MP, 123)
12. "The Visicalc Book (Apple Edition)" by Donald Beil, 301pp
    Publ. by Reston Publ.Co, 1982 (VC)
13. "Multiplan Home and Office Companion"by Tymes &
    Antoniak, 245pp
    Publ. by Osborne/McGraw Hill, 1984 (MP)
14. "Managing your Business with Multiplan" by Ruth Witkin,
    413pp Publ. by Microsoft, 1984 (MP for IBM)
15. "The Power of: Financial Calculations for Multiplan"
    by Robert Williams, 178pp
    Publ. by Prentice-Hall Inc, 1982 (MP)
16. Magazine Articles. See especially Apple User for
    Jun,Jul,Aug & Dec 1984,Mar,Aug,Sep,Oct & Dec 1985
17. BASUG disks D034, D062, D088, C026
18. CP/M and MS-DOS Public Domain disks:
    PC-Sig 14,64,65,85,109,114,115,121-123,140,141,
         165,207,257,289,291,301-306,332,376,389.
    PCBBUK 1,5,50,56,69,125,126.
    PC Blue: 34,38,51,56,63,84,111,122,124.

For further information contact:
    Nick Hunter, 7 Victoria Place, Larkhall, Bath BA1 6RW.

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## FROM OUR FOREIGN CORRESPONDENT

Junohallsvagan 14A
112 64 STOCKHOLM
SWEDEN

Dear Mr.Panks,

I was surprised to see the new format of the December issue
of Hardcore and pleased at the quality and extent of the
contents. It is just the sort of magazine we need if the club is
to survive.

I found the article by David Wilshere on the Apple ][ of
particular interest.
As a ][ + owner myself I have no doubts about the usefulness
of the machine, nor do I have any doubt that the Apple ][
species will survive long after the Spectrums, Dragons,

Tandy's  and Acorns etc. have all disappeared. The Apple ][ is
a classic micro, it is a simple, rugged, reliable and versatile
machine.

I bought my Apple in Hong Kong in 1983 ('nuff said!), not
because I had any particular interest in computers or any
special use for one in mind. But at H.K. prices I could see that
if I was to get involved at all, it had to be the place to buy the
equipment !.

Since then the Apple has gradually become one of the most
used machines in our household. Like David, I found it taught
me a great deal about computers, it is a superb learning
machine.

My main use for it is as a word processor. It took considerable
persuasion before my wife got to grips with 'Wordstar', but she
now uses it for all her correspondance as well, it is the
typewriter in our house that is consigned to the back of the
wardrobe !.

There are other uses though, one of my hobbies is R/C model
aircraft and I have written myself a program to plot and print
out aerofoil sections which takes much of the drudgery out of
designing wings. The program is rough and not very elegant
but the main thing is that it works and does something useful.
This is the key I believe to the survival of the micro in the home
and it seems that the U.K. micro industry have at last woken
up to the fact that micros must have a use other than as a toy
for zapping space invaders. The Amstrad PCW 8256 looks like
a good first step in this direction.

The fact that there are 2 million Apple ]['s around has not been
lost on the American computer magazine market. During 1985
'Compute' magazine has had a regular series of interesting
articles directed at the Apple and several very good M/L
program listings, including a complete word processor and a
really excellent Basic Line Editor (BLE2). But how many Apple
]['s exist in the U.K.? hardly any if you go by the coverage
they recieve in the U.K. magazines.

The future may well lie with the MacIntosh, but the fact is that
Apple ][ is quite powerful enough for most home uses and
existing owners are not going to lay out MacIntosh type money
just to get the Mac's ease of use. In fact if you want Pull Down
Menus, Icons And Mice they are all available now for the ][.

Another, perhaps rather frivolous use for our Apple occurred
over the Christmas holiday. We play darts at home xmince I
have never excelled at mental arithmetic, we were using
calculators to keep the scores. After several times losing the
scores altogether due to finger trouble with the calculators, I
had the idea of writing an Applesoft program to do the job for
me.  The basic program was worked out in a couple of hours
and refined over the next few days, (what else can you do at
Christmas !). It is again a 'quick and dirty' program, but it
works, keeps track of up to four teams or players, displays the
finishes from 100 down, and just in case you think you are
getting good at the game, totals up the darts thrown to 'get out'

Well thats all from me for the moment, this is the first time I
have written to Hardcore, but you asked for contributions, so
for what it's worth here is mine.
Good luck with the new style Hardcore and best wishes for a
successful 1986.

# Peanut Computer 128k RAM card

by Phil Rowley

My system comprises an Apple II+, 16k RAM card, 2 drives, Z80 card and a Silentype printer. When using Apple Pascal or other compiled languages, I have often found the delays in waiting for physical disks frustrating - particularly with tasks which create several work files at once. Since the cost of 128k RAM cards is now reasonable, I decided to treat myself to one. This particular card, like the others, is an equivalent to the original and highly-expensive Saturn RAM cards. It comes with a 74-page manual and three disks of software for the DOS, Pascal and CP/M operating systems: no software is available to support ProDOS.

The card may be fitted in any vacant slot and is organised as 8 banks of 16k which occupy the same memory space. All bank switching is handled by the installation software. A problem may be encountered if the system already contains an Apple Language card ( but NOT a 16k RAM card which most people would have instead ). This is due to the autostart ROM on the 16k card interfering with the 128k card. The Pascal disk emulation software can cope with this problem by simply avoiding the address range $F800-$FFFF which is in conflict. The DOS and CP/M pseudo disk software cannot do this and there are two options available - either remove the 16k card or carry out a hardware modification to the 16k card to prevent the address conflict. To repeat the point, this problem is not encountered with a 16k RAM card in slot 0.

I decided to leave my 16k card in slot 0 and installed the 128k card in slot 2. Details of the software for the varmous operating systems follow :-

## DOS 3.3

Programs are provided which allow DOS to be moved onto the RAM card, also the non-resident BASIC version can be transferred to the card.

Another program allows the RAM card to be used as extra workspace to store arrays, subroutines or parts of Integer or Applesoft programs. A demonstration program is provided to illustrate the syntax of the access commands. This program requires slight modifications if the RAM card is not located in slot 0. The RAM-expand program is compatible with DOS moved to the 128k card.

Probably the most useful program configures the RAM card as a pseudo disk. The pseudo disk can be set up as any legal slot or drive. If available, the program can also use any other RAM cards which may be on the system. Since the pseudo disk has a non-standard structure, a program is provided which modifies FID, BOOT13 and MUFFIN to function with the pseudo disk ( and also with normal disks ). The only problem I

encountered with the modified FID program was that the free-space count was incorrect.

The DOS pseudo disk appears to be totally compatible with the software I have tried with the exception of such programs as Visicalc which have to be booted to start them. In these cases, it is impossible to run PSEUDO DISK to connect the card as a pseudo disk. This would not be a problem with not-copy-protected programs where PSEUDO DISK could be run first.

The TASC compiler will not work with the RAM disk, but it is well known to require a 'clean' machine on which to run.

The notoriously slow Apple editor/assembler from the Toolkit can be somewhat improved by running on a pseudo disk. As it stands, the system will use slot 6 drive 1 for loading. If the pseudo disk is set up as drive 1 in slot 'n' then the following sequence will allow the assembler to run on the RAM card :-

```
RUN PSEUDO DISK to set up the pseudo disk
Use the modified FID to copy EDASM.OBJ
     ASSM
     EDITOR to the pseudo disk
CATALOG the pseudo disk to set it as default
POKE 1528,n * 16 to set the default slot for EDASM.OBJ
BRUN EDASM.OBJ
```

Some comparisons of operations on a physical and pseudo disk appear later.

## Pascal

The software provided for Pascal comprises pseudo disk operation, a fast copy program to rapidly copy disks to/from the pseudo disk, a program to mark files for copying to the pseudo disk and a copy program which will rapidly copy all such tagged files.

As a regular Pascal user, I think that the pseudo disk is the greatest benefit with compilation speeds being much improved. Although I have not tested it, I am sure that the same would be true for assembler work. In the same way as the DOS programs, the pseudo disk need only be configured once after which the SYSTEM.ATTACH program and two driver files are copied to the boot disk. Once this is done, the pseudo disk is automatically set up when the system is started. Should a SYSTEM.STARTUP program be on the boot disk, it will be run automatically after the pseudo disk has been initialised.

The FILEMARKER and FILEMOVER programs are useful if some files often need copying to the pseudo disk. On my own system, I have renamed SYSTEM.EDITOR and SYSTEM.COMPILER on the boot disk to SYS.EDITOR and SYS.COMPILER. I then copy them to the pseudo disk and rename them to their old names. The copies on the boot disk must be renamed as the system will always try to load the editor, filer and compiler from the boot disk first, even if it is not set as the default volume.

Some timings on the pseudo disk are given later.

## CP/M

The pseudo disk software for CP/M is ONLY usable under CP/M 2.20 56k; the disk itself has this version of CP/M on it, so any purchaser will have the correct CP/M available. I am sure that the driving software could be modified to run under CP/M 2.23 60k, but I lack the expertise in Z80 machine code to try this myself.

As for the other systems, once the pseudo disk has been configured, two driver programs INIT.COM and INIT2.COM are produced. The first of these initialises the pseudo disk and clears its directory whereas the second sets up the disk but leaves its directory unchanged. This is useful if the system has to be restarted for some reason, as the files on the pseudo disk will not be lost.

Timings are given for some FORTRAN and C compilation tests later, in particular the C test (from the small C on BASUG CP/M disks 2-4) has some very disk-intensive linking work - the increase in speed here is very impressive. Although I have not tried it, I am sure that useful results would also be gained for users of Dbase-II and other systems with disk overlays and help files.

### Timing tests

Unless otherwise stated the physical disk tests are using one drive for DOS and two for Pascal and CP/M. Timings are given without any comments as to the time to setup the pseudo disk and copy files to it, as this will usually be a one-off task each session.

```
Operation                              Physical disk   RAM disk
---------                              -------------   --------

Apple Toolkit Assembler (1 drive)
------------------------
Save 586 line rource file (11.1k)           36             26
Assemble above file                        130            110

Apple Pascal
------------
Compile 469 line source file               106             80

Microsoft Fortran-80 (CP/M)
---------------------------
Compile demo program PI.FOR                 18              9
Link PI.REL & FORTRAN library routines     127             90
(Both the above include loading
 the compiler & linker)

Small-C (BASUG CP/M library)
----------------------------
Compile TEST.C                              90             67
Assemble compiler output to .OBJ            46             30
Link .REL and library routines             105             39
(All the above include loading
 compiler, assembler & linker )
```

I am very pleased with the RAM card, which offers both the capacity of an extra drive with much increased speed of operation.

All RAM cards do impose a considerable load on the Apple's rather small power supply, if your system has several interface cards already, then investing in a heavy-duty PSU is probably a wise move. Failing this, a cooling fan will almost certainly be required.

I did buy another RAM card for only 95 pounds from another supplier - it proved totally incapable of retaining files uncorrupted for even 30 minutes, so I would treat any extremely cheap RAM card with suspicion.

---

## ProDOS fix for Mountain Hardware clock card

Borstal,
Rochester,
Kent,

Dear Sirs,

Here is a program (listing 1) to allow ProDOS to read a Mountain Hardware clock card, thus allowing those members with this "non ProDOS" clock the pleasure of automatically date stamped files.

The CONVERT part of this program may be used to solve Shmuel Brown's problem (August 85) for date stamping ProDOS files manually. In this case, the date and time are entered from a short Basic program (listing 2) which passes them to the CONVERT routine of PROTIME.

To allow this to work with AppleWorks I have modified the /APPLEWORKS/PRODOS file to jump to the clock read/convert routine by the following:

```
BLOAD /APPLEWORKS/PRODOS, A$2000, T$FF
CALL -151
4E06: 4C 00 03
BSAVE /APPLEWORKS/PRODOS, A$2000, L15360, T$FF
```

I then created a pre-boot disk which loads PROTIME, and then runs /APPLEWORKS/PRODOS.

Does anyone know of a way to modify the AppleWorks startup disk to load the clock routine, without the use of a seperate pre-boot disk?

Robert Clegg.

```
 1
 2   *   LISTING 1
 3
 4   ************************************
 5   *
 6   *   Program to allow ProDOS to
 7   *   read the Mountain Hardware
 8   *   clock (in slot 4).
 9   *
10   *   ASSEMBLER:  Big Mac LC or
11   *               Merlin
12   *
13   *   ++   PROTIME   ++
14   *
15   *   by Robert Clegg
16   *
17   *   25/10/85
18   *
19   *   9 Hill Road
20   *   Borstal,
21   *   Rochester,
22   *   Kent.
23   *
24   ************************************
25
26   *   This program reads the time
27   *   and converts it to ProDOS
28   *   format and stores it in
29   *   ProDOS $BF90 - $BF93.
30   *   The initialise routine at
31   *   $2F1 - $2FF rpplaces a RTS
32   *   in ProDOS with a JMP to the
33   *   clock read routine.
34
35   * Constants
36
37   SLOT     EQU   4   ; Change this if different slot
38   YR       EQU   85  ; Change this if different year
39
40   * Mountain Hardware Clock storage area
41
42   MINSH    EQU   $28A    ; Minutes, tens
43   MINSL    EQU   $289    ; Minutes, units
44   HRSH     EQU   $28D    ; Hours, tens
45   HRSL     EQU   $28C    ; Hours, units
46   DAYH     EQU   $290    ; Days, tens
47   DAYL     EQU   $28F    ; Days, units
48   MONH     EQU   $293    ; Months, tens
49   MONL     EQU   $292    ; Months, units
50
51   * Program storage
52
53   TEMP     EQU   $294
54
55   * ProDOS Time storage
```

---

```
                56
                57    DAY       EQU   $BF90
                58    YEAR      EQU   $BF91
                59    MINS      EQU   $BF92
                60    HOURS     EQU   $BF93
                61
                62    CLKJMP    EQU   $BF06  : ProDOS calls here to get time
                63
                64    *------------------------
                65
                66              DO 0              ; Macro definition follows
                67
                68    TIMES10   MACRO
                69              CLC       ; Multiply TENS by ten (binary)
                70              ROL
                71              STA   TEMP
                72              ROL
                73              ROL
                74              ADC   TEMP
                75              EOM
                76
                77              FIN              ? End of macro definitions
                78
                79    *------------------------
                80
                81
                82              ORG $2F1
                83
                84    * This portion of code must be changed to
                85    * point at the start of the program if you
                86    * want to put the program somewhere else.
                87
02F1: A9 4C     88    SETJMP    LDA   #$4C       : Set up JMP in ProDOS
02F3: 8D 06 BF  89              STA   CLKJMP     ; to clock reader program.
02F6: A9 00     90              LDA   #START     ; to enable automatic date
02F8: 8D 07 BF  91              STA   CLKJMP+1   ; stamping of disk files.
02FB: A9 03     92              LDA   #/START
02FD: 8D 08 BF  93              STA   CLKJMP+2
                94
                95
                96    * The following code can be relocated anywhere
                97    * in memory.  The location of START must be
                98    * placed in $BF07 - $BF08 for automatic updating
                99    * to take place.
                100
                101
0300: D8        102   START     CLD              ; Clear decimal mode
                103
                104   * Read clock card and save in input buffer
                105
0301: A5 45     106   READCLK   LDA   $45        ; Save A register
0303: 48        107             PHA
0304: 8A        108             TXA              ? Save X register
0305: 48        109             PHA
0306: 98        110             TYA              : Save Y register
0307: 48        111             PHA
0308: ADC7 C0   112             LDA   $10*SLOT+$C087 : Clear IRQ on clock
030B: 70        113             CLI       ; Enable higher priority IRQ
030C: A5 38     114             LDA   $38        $38 : Save KSW (kbd input switch)
030E: 48        115             PHA
030F: A5 39     116             LDA   $39
0311: 48        117             PHA
0312: A9 C4     118             LDA   #$C0+SLOT  ; Set clock up for SLOT
                                                   number
0314: 85 39     119             STA   $39
0316: 20 00 C4  120             JSR   SLOT*$100+$C000 ; Read clock
0319: 68        121             PLA              ; Restore KSW
031A: 85 39     122             STA   $39
031C: 68        123             PLA
031D: 85 38     124             STA   $38
031F: 68        125             PLA              : Restore Y register
0320: A8        126             TAY
0321: 68        127             PLA              ? Restore X register
0322: AA        128             TAX
0323: 78        129             SEI              ; Disable interrupts
0324: AD C8 C0  130             LDA   $10*SLOT+$C088  ; Clear INT-OUT on
                                                   clock
0327: 68        131             PLA              : Restore A register
                132
                133   * Convert time to ProDOS format and save in
                      ProDOS
                134
0328: AD 8A 02  135   CONVERT   LDA   MINSH      ; Convert minutes first
032B: 29 0F     136             AND   #$0F       ; Convert to binary
                137             >>>   TIMES10    : Tens
032D:18         137             CLC       ; Multiply TENS by ten (binary)
032E: 2A        137             ROL
032F: 8D 94 02  137             STA   TEMP
0332: 2A        137             ROL
0333: 2A        137             ROL
0334: 6D 94 02  137             ADC   TEMP
                137             EOM
0337: 8D 92 BF  138             STA   MINS       ; Save
033A: AD 89 02  139             LDA   MINSL      ; Minutes units
033D: 29 0F     140             AND   #$0F       ; Convert to binary
033F: 18        141             CLC              ; Prepare for add
0340: 6D 92 BF  142             ADC   MINS       ; Add units
0343: 8D 92 BF  143             STA   MINS       ; Save
                144
0346: AD 8D 02  145             LDA   HRSH       ; Hours tens
0349: 29 0F     146             AND   #$0F       ; Convert to binary
                147             >>>   TIMES10    : Tens
034B: 18        147             CLC              ; Multiply TENS by ten (binary)
034C: 2A        147             ROL
034D: 8D 94 02  147             STA   TEMP
0350: 2A        147             ROL
0351: 2A        147             ROL
0352: 6D 94 02  147             ADC   TEMP
                147             EOM
0355: 8D 93 BF  148             STA   HOURS      ; Save
0358: AD 8C 02  149             LDA   HRSL       ; Hours units
035B: 29 0F     150             AND   #$0F       ; Convert to binary
035D: 18        151             CLC
035E: 6D 93 BF  152             ADC   HOURS      ; Add units  tens
0361: 8D 93 BF  153             STA   HOURS      : save
                154
0364: A9 55     155             LDA   #YR        ; Year
0366: 8D 91 BF  156             STA   YEAR
                157
0369: AD 93 02  158             LDA   MONH       ; And for months
036C: 29 0F     159             AND   #$0F       ;convert to binary
                160             >>>   TIMES10
036E: 18        160             CLC              ; Multiply TENS by ten (binary)
                160
036F: 2A        160             ROL
```

```
0370: 8D 94 02  160             STA   TEMP
0373: 2A        160             ROL
0374: 2A        160             ROL
0375: 6D 94 02  160             ADC   TEMP
                160             EOM
0378: 8D 90 BF  161             STA   DAY
037B: AD 92 02  162             LDA   MONL
037E: 29 0F     163             AND   #$0F
0380: 18        164             CLC
0381: 6D 90 BF  165             ADC   DAY
                166
0384: 0A        167             ASL              ; Convert time to ProDOS format
0385: 0A        168             ASL
0386: 0A        169             ASL
0387: 0A        170             ASL
0388: 0A        171             ASL
0389: 2E 91 BF  172             ROL   YEAR
038C: 8D 90 BF  173             STA   DAY
                174
038F: AD 90 02  175             LDA   DAYH       ; Days
0392: 29 0F     176             AND   #$0F
                177             >>>   TIMES10
0394: 18        177             CLC              ; Multiply TENS by ten
(binary)
0395: 2A        177             ROL
0396: 8D 94 02  177             STA   TEMP
0399: 2A        177             ROL
039A: 2A        177             ROL
039B: 6D 94 02  177             ADC   TEMP
                177             EOM
039E: 8D 94 02  178             STA   TEMP
03A1: AD 8F 02  179             LDA   DAYL
03A4: 29 0F     180             AND   #$0F
03A6: 18        181             CLC
03A7: 6D 94 02  182             ADC   TEMP
03AA: 0D 90 BF  183             ORA   DAY
03AD: 8D 90 BF  184             STA   DAY
03B0: 60        185             RTS
                186
                187   *------------------------
```

LISTING 2.

```
1000   REM    EXAMPLE DATE
1010   REM    27-OCT-85  19:32
1020 :
1030 :::::::::::::::::::::::
1040 :
1050   REM    YOU COULD PUT YOUR
1060   REM    DATE INPUT ROUTINE
1070   REM    IN HERE.
1080 :
1090 DAY$ = "27"
1100 MTH$ = "10"
1110 YR$ = "85"
1120 HR$ = "19"
1130 MIN$ = "32"
2000 :
2010 :::::::::::::::::::::::
2020 :
2030   REM    START OF CODE THAT
2040   REM    CONVERTS THE DATE
2050   REM    STORED IN THE INPUT
2060   REM    BUFFER ($289 - $293)
2070   REM    TO PRODOS FORMAT AND
2080   REM    STORES IT AT $BF90 -
2090   REM    $BF93.
2100 :
2110 :::::::::::::::::::::::
2120 :
2130 YLOCT = 869::: REM  $365
2140 START = 808:: RqI&x2150 :
2160 :::::::::::::::::::::::
2170 :
2180 T$ = MIN$::: GOSUB 3030
2190 T$ = HR$:::: GOSUB 3030
2200 T$ = DAY$::: GOSUB 3030
2210 T$ = MTH$::: GOSUB 3030
2220 :
2230 :::::::::::::::::::::::
2240 :
2250 YR = VAL (YR$)
2260 POKE YLOCT,YR
2270 CALL START
2280 END
3000 :
3010 :::::::::::::::::::::::
3020 :
3030 FOR CTR = 1 TO  LEN (T$)
3040 READ LOC
3050 POKE LOC, ASC ( MID$ (T$,CTR,1)) / 128
3060 NEXT
3070 RETURN
4000 :
4010 :::::::::::::::::::::::
4020 :
4030   REM    LOCATIONS USED BY
4040   REM    M/C PROGRAM PROTIME
4050 :
4060   DATA   650, 649<653, 652
4070   DATA   656, 655, 659, 658
```

# HOTLINE NEWS

### Dave Ward - Telephone - ▩▩▩▩ ▩▩▩▩

The HOTLINE will be available most week nights between 7 - 9 pm.

In the last issue I listed some of the questions which were raised with the HOTLINE. In this issue and future ones I will attempt to continue this practice.

### APPLEWORKS

As last month a wide variety of queries concerning this program and its relationship with different printer and card set-ups were received.

Appleworks 1.2 has overcome many of these and members with previous versions should rush for their free upgrade.

Certain printer interface cards that do not follow Apple's protocols will not work with Appleworks. A typical example is the Epson 8132 card. However, Dark Star Systems sell you a ROM chip to correct this.

There is a version 1.3 also available which makes Appleworks compatible with the new Unidisk and the one megabyte expansion ramcard.

### DATA TRANSFER

A number of questions have been raised regarding the access of data files produced on one machine by another - typically BBC textfiles to be read by a MacIntosh [copyright MacIntosh Laboratories ! ].

There are a number of companies that specialise in translating many disk formats.

UNRESOLVED QUESTIONS - if you know the answer drop a line to HARDCORE.

1  How can I get my wordprocessor to have a Spanish character set? [ use a Spanish Apple //e ?]

2  Any suggestions for enabling the Epson RX 80 to work with Visiplot/Visitrend ?

3  How do I connect a Disk ][ drive to my Apple //c ?

It took me a long time with my Scoreboard program to work out an error trap routine to avoid getting the ??REENTER error message when a character string is entered Do an INPUT statement expecting a number or vice-versa.  I wanted to avoid this if at all possible since the main object was to play darts and not to be distracted by having to sort out spurious messages on the computer screen!!

The routine starts at line 7000 in the program and might be useful to include as a tip in Hardcore, since many Basic programs include INPUT routines and, in order to be 'user friendly', as complete an error trap as possible should be
written in.

As you can see the routine is based on the ONERR and ON GOTO statements with PEEKS for the error code number and line number, the POKE 216,0 resets the error code number to avoid an infinite loop. The trick is in using the ON GOTO since the plain GOTO in Applesoft will not accept a function which equates to a line number. Add the following lines to a program to trap input errors:-

```
5 ONERR GOTO 5000
5000 IF PEEK(222) = 254 THEN CALL-198: GOTO 5200
5200 LN = PEEK(218) + PEEK(219) * 256
5300 IF LN = [ n1 ] THEN L = 1 )
5400 IF LN = [ n2 ] THEN L = 2 )- where n1,n2,n3 are the lines
5500 IF LN = [ n3 ] THEN L = 3 ) with the INPUT statements.
5600 POKE 216,0: ON L GOTO n1, n2, n3
```

Of course your 'INPUT' line must contain a VTAB to re-write the line at the same place on the screen. If you expect errors other than the code 254 (bad INPUT response) then add a line 5100 to catch them.

Peter Jackson.

# BINARY DATA TO VARIABLES

## by Ray Harris

I recently had a data file (759 twelve-byte records), held as a binary file, which I wanted to sort. My most efficient sorting program, slightly adapted from AMPERSORT.OBJ on BASUG disk 72, works on records held as variables. It seemed sensible to use it by converting the data so that each 12-byte record became one member of an array, and this conversion process seemed worth passing on. In order to keep track of the records as they were moved each variable also needed to have attached a number to show its initial position in the series.

A first attempt in BASIC worked, but had to be left for nearly an hour as it created each variable by adding one byte at a time to the end (e.g. FOR CO=0 TO 11:TT$(I)=TT$(I)+PEEK(BYTE): BYTE=BYTE+1:NEXT CO). Garbage collection must have been frequent, and the process would have been quicker using one of several known improvements to garbage collection. Since the requirement was chiefly only to move bytes, which is easily done in assembly language, I set about using this instead of BASIC for the whole thing. The moves were easy, as was adding the counting number, but the tricky part, even using CALL-A.P.P.L.E.'s guide to variable storage (in `All About Applesoft'), was putting the array pointers in the right place. Pointers to the last used variable appear in $83.84 (131-132) in zero page, but when I stopped a BASIC program in its tracks these bytes did not always point to the right place: for example, putting line 101 STOP in the BASIC program below leaves the contents of $83.84 different from the value provided by TT$(0). (Can anyone explain why?)

The BASIC program shows my method of getting at the pointer, although by experiment this was found to be seven bytes before the pointer to TT$(0). In dimensioned string arrays each member of the pointer list consists of three bytes:
1) length of string
2) low byte of storage address
3) high byte of storage address.

Having tracked down the pointer, the conversion program needs only to fill in these details for each Wf the 759 array variables, and to protect them by resetting FRETOP at $6F.70 so that they are not overwritten by later variables in the program. I hope the assembled binary listing otherwise explains itself.

The sorting program has been adapted by having a header added which sets the ampersand vector, and by being re-assembled to run at $BA00 (DOS being on a RAM card). The syntax of line 160 gives, in order, the variable name, the first and last members to be included in the sort, the ranges of bytes in the record on which the sort is to be done, and whether (A)scending or (D)escending. Lines 180-210 write a file to show the new order of the variables, which I use later for sorting people's names and other details, held in a separate file, into the right order.

```
1    REM THIS WORKS WITH DOS MOVED INTO THE RAM CARD
10   HIMEM: 32768: TEXT
20   TN$ = "12345678901234": REM CHANGE IF G>12
30   D$ =  CHR$ (4): NP=759
40   PRINT D$"BRUN SORT& $BA00"
50   PRINT D$"BLOAD PERSONAL DETAILS,A$8000"
60   PRINT D$"bLOAD PD-VARS"
70   DIM TT$(NP)
80   POKE 252, INT (NP / 256): POKE 251,NP - 256 *
INT (NP / 256)
90   FLASH : PRINT "LOADING": NORMAL
100  TT$(0) =  STR$ ( PEEK (131) + 256 *  PEEK
(132))
110  A =  VAL (TT$(0))
120  POKE 254, INT (A / 256): POKE 253,A - 256 *
INT (A / 256)
130  CALL 768
140  FLASH : PRINT "SORTING"
150  N% = NP
160  & SRT£(TT$,1,N%,14,14,A,7,7,A)
170  NORMAL : HOME : PRINT "SAVING"
180  PRINT D$"OPEN NEWLIST"
190  PRINT D$"WRITE NEWLIST"
200  FOR N = 1 TO NP
201  X =  ASC (TT$(N)) + 256 *  ASC ( RIGHT$
(TT$(N),13))
202  PRINT X
203  NEXT
210  PRINT D$"CLOSE NEWLIST"
220  PRINT : PRINT "DONE"
230  END
```

```
1        ********************************
2        *         PD-VARS              *
3        *         03/1/86              *
4        ********************************
5
6        *Copies data held in binary file
7        *into pre-dimensioned variables (TT$())
8
9        G         -       $0C        ;number of bytes
                                        in record
10       FRETOP    -       $6F
11       PDPNTR    =       $EE        ;steps through the
                                        binary file
12       PCOUNTER  =       $F9        ;to be compared
                                        with NPEOPLE
13       NPEOPLE   -       $FB
14       VARPNT1   =       $FD        ;updated from the
                                        original $83.84
15                 DO      0
16  INC            MAC
17                 CLC
18                 LDA     ]1
19                 ADC     #]2
20                 STA     ]1
21                 LDA     ]1+1
22                 ADC     #]3
23                 STA     ]1+1
24                 <<<
25  DEC            MAC
26                 SEC
27                 LDA     ]1
28                 SBC     #]2
29                 STA     ]1
30                 LDA     ]1+1
31                 SBC     #]3
32                 STA     ]1+1
33                 <<<
34                 FIN
35
36                 ORG     $300
37                 >>>     INC VARPNT1;10;0
                ;to point first to TT$(1)
0300: 18        37       CLC
0301: A5 FD     37       LDA     VARPNT1
0303: 69 0A     37       ADC     #10
0305: 85 FD     37       STA     VARPNT1
0307: A5 FE     37       LDA     VARPNT1+1
0309: 69 00     37       ADC     #0
030B: 85 FE     37       STA     VARPNT1+1
                37       <<<
030D: A9 00     38       LDA     #0
030F: 85 F9     39       STA     PCOUNTER
0311: 85 FA     40       STA     PCOUNTER+1
0313: 85 EE     41       STA     PDPNTR
0315: A9 80     42       LDA     #$80
                ;binary originally at $8000
0317: 85 EF     43       STA     PDPNTR+1
0319: A5 F9     44  ENDCHECK LDA  PCOUNTER
031B: C5 FB     45       CMP     NPEOPLE
031D: D0 06     46       BNE     ON
```

```
031F: A5 FA    47          LDA  PCOUNTER+1
               ;check both low and high bytes
0321: C5 FC    48          CMP  NPEOPLE+1
0323: F0 68    49          BEQ  EXIT
               50  ON      >>>  DEC FRETOP;G;0
0325: 38       50          SEC
0326: A5 6F    50          LDA  FRETOP
0328: E9 0C    50          SBC  #C
032A: 85 6F    50          STA  FRETOP
032C: A5 70    50          LDA  FRETOP+1
032E: E9 00    50          SBC  #0
0330: 85 70    50          STA  FRETOP+1
               50          <<<
0332: A0 0B    51          LDY  #G-1
               ;coun$ from 0 to G-1 not 1 to G
0334: B1 EE    52  STORE   LDA  (PDPNTR),Y ;transfer bytes
0336: 91 6F    53          STA  (FRETOP),Y
0338: 88       54          DEY
0339: 10 F9    55          BPL  STORE
               56          >>>  INC PDPNTR;C;0 ;ready for next
033B: 18       56          CLC
033C: A5 EE    56          LDA  PDPNTR
033E: 69 0C    56          ADC  #G
0340: 85 EE    56          STA  PDPNTR
0342: A5 EF    56          LDA  PDPNTR+1
0344: 69 00    56          ADC  #0
0346: 85 EF    56          STA  PDPNTR+1
               56          <<<
               57          >>>  DEC FRETOP;2;0
               ;allow space for 2 byte count to be attached
0348: 38       57          SEC
0349: A5 6F    57          LDA  FRETOP
034B: E9 02    57          SBC  #2
034D: 85 6F    57          STA  FRETOP
034F: A5 70    57          LDA  FRETOP+1
0351: E9 00    57          SBC  #0
0353: 85 70    57          STA  FRETOP+1
               57          <<<
               58          >>>  INC PCOUNTER;1;0
0355: 18       58          CLC
0356: A5 F9    58          LDA  PCOUNTER
0358: 69 01    58          ADC  #1
035A: 85 F9    58          STA  PCOUNTER
035C: A5 FA    58          LDA  PCOUNTER+1
035E: 69 00    58          ADC  #0
0360: 85 FA    58          STA  PCOUNTER+1
               58          <<<
0362: A0 01    59          LDY  #1          ;attach count
0364: A5 FA    60          LDA  PCOUNTER+1
0366: 91 6F    61          STA  (FRETOP),Y
0368: 88       62          DEY
0369: A5 F9    63          LDA  PCOUNTER
036B: 91 6F    64          STA  (FRETOP),Y
036D: A0 02    65          LDY  #2
               ;put pointer in place for TT$(N)
036F: A5 70    66          LDA  FRETOP+1
0371: 91 FD    67          STA  (VARPNT1),Y
0373: 88       68          DEY
0374: A5 6F    69          LDA  FRETOP
0376: 91 FD    70          STA  (VARPNT1),Y
0378: 88       71          DEY
0379: A9 0E    72          LDA  #C+2
               ;put in length byte
037B: 91 FD    73          STA  (VARPNT1),Y
               74          >>>  INC VARPNT1;3;0
               ;move to next pointer
037D: 18       74          CLC
037E: A5 FD    74          LDA  VARPNT1
0380: 69 03    74          ADC  #3
0382: 85 FD    74          STA  VARPNT1
0384: A5 FE    74          LDA  VARPNT1+1
0386: 69 00    74          ADC  #0
0388: 85 FE    74          STA  VARPNT1+1
               74          <<<
038A: 88       75          DEY
038B: 30 8C    76          BMI  ENDCHECK
               ;always Y contains $FF
038D: 60       77  EXIT    RTS

--End assembly--

142 bytes
Errors: 0
Symbol table - alphabetical order:

MD DEC     -$8000    ENDCHECK-$0319    EXIT     -$038D
FRETOP     -$6F      G       -$0C      MD INC  -$8000
NPEOPLE    -$FB      ON      -$0325    PCOUNTER-$F9
PDPNTR     -$EE      STORE   -$0334    VARPNT1 -$FD

Symbol table - numerical order:

G          -$0C      FRETOP  -$6F      PDPNTR   -$EE
PCOUNTER=$F9         NPEOPLE =$FB      VARPNT1 -$FD
ENDCHECK-$0319       ON      -$0325    STORE   -$0334
EXIT       -$038D    MD INC  -$8000    MD DEC  -$8000
```

# SOFTWARE LIBRARY NEWS

## by Graham Attwood

### RECENT RELEASES

**D105 Disk Manager by Ewen Wannop**
Just the thing to sort out your disks, put in a patch or two, or recover that crashed disk. See articles in February and April Hardcores for more detailed information. A printable manual is included on the disk.

**D106 Kermit protocols for the Apple**
Allows data transfer by phone between a wide range of micros. Not as versatile as a full comms. program but much better than XMODEM under Ward Christiansen protocols. For an overview see the article in February Hardcore. Instructions are included on the disk.

**P009 Stormbringer**
An Adventure written in Pascal. (needs library units from disk P008)

### NEW ISSUES

**D107 Pot-pourri**
Airfoil designer for model aircraft. Darts score keeper. Program 'Title page' maker. Audio output of hex dumps via U-Talk card. Use a Mountain Hardware clock under ProDOS (see Robert Clegg's article in this issue).

**P01' Pascal utilities**
DATES unit - allows calculations with dates. DUPLICATE - a fast copy program for single drive users. MCAT - a master catalog for Pascal disks. COMPLEXNOS unit - for handling complex numbers. UNDERLINE - enables the underline character to be used in Pascal programs.

**C029 Mixed bag utilities including:**
TRANSFER - allows Text or Binary files to be moved between DOS 3.3 and CP/M disks, ideal for putting Wordstar files into Applewriter or vice-versa. COMPARE - tests two MBASIC programs and reports any differences.

All Software Library disks are £5.00 inclusive of VAT and P&P. Buy in bulk at 10 for £45.00 including FREE library case.

Library Catalogue available on disk at £1.00 or free with any Library disk if requested.

### Herts. and Beds. Group.

February Meeting. Thanks to Peter Trinder for showing the Macintosh Plus to the group, explaining details of the upgrading system, and amazing everyone with Excel running on his hard disk.

(On a more mundane level, someone has had cold hands for much of the bitter weather in February, because their rather new looking blue woollen gloves from Marks and Spencers have been sitting in my house doing them no good at all! Do let me know if you left your gloves at this meeting.)

March Meeting. Thanks to Colin Holgate for sharing his expertise with all the uses of Copy II Plus on the Apple II, not just the copying bit! Several of us learnt some new tricks which we are looking forward to trying out.

### MidApple

At the last meeting there was a series of chats and demos on computer graphics. Nick Gledhill took his Apple Graphic tablet, Harry did a chat on Print Shop and William spoke on screen to printer dump routines.

### London Mac Group

The meeting on February 11th was on the general theme of Word Processors. Two members of the group shared their expertise on the use of MacWrite and Microsoft Word to create booklets and dissertations having a professional look to them.

Here are quotes from some of the group:-

"I am a microbiologist and bought my Macintosh chiefly because I wanted an easy to use word processor for writing papers and analysing scientific data. ...........I have become extremely interested and stimulated by the potential of the Macintosh and look forward to getting experience in programming and the use of various databases." Maureen de Saxe.

"I am a technician in the Electrical Engineering Dept of the Polytechnic of the South Bank. My experience of computers has been limited but since my transfer to the computing laboratory in April of last year I have become addicted to the Mac. .....I am using MacPaint and Draft plus Ready, Set, Go! both to produce my own book and to produce Instruction Sheets." Peter Summers.

"My involvement with the Mac grew out of my general interest to know what computers could do. Progressively, it has become an indispensable aid for my professional work and a continuous source of enjoyment and amazement. .............Although I don't know how to programme, I'm interested in learning LOGO and PROLOG. After having the Mac for nine months, I am more in love than ever with it." RosaMaria Sanchez.

"My professional field is 'Psychology of Science'. Virtually all areas of my work can be computer-assisted tasks, from the word-processing/graphic requirements of a technical report, to control of laboratory equipment and data management/analysis. The Mac is taking an increasingly active role in several of these areas." Javier Carrillo

"I am interested in structural analysis, CAD, using the Mac for child education, communications and generally increasing my knowledge of the wee beastie." Mike O'Connell.

"Began 1973, digital electronics through early years of microprocessor development/home computers etc. Interest in Apple computers began in 1980 with Apple II, continued through IIe, IIc and currently using Macintosh 512K and updating to Macintosh Plus." Ronald Schaller.

This remarkable utility device will revolutionise the standard Apple Disk Operating System (DOS) and lift the humble 5 1/4 disk to a new performance standard.

The principle of this device came originaly from Toni & Alfredo Aprili who where leading technical staff in a video firm, they were also Apple Computer Hobbyists who wished that the successful design of the angled head of a video recorder could be transfered to the read/write heads of a disk drive.

It was the development of the angled record/playback head which enabled the video recorder to store the mass of information required for the success of the video recorder

And it was this technology that Toni & Alfredo wished to transfer to the static head of the Apple disk drive.

After many years of research they have now produced a hardware add-on which enables the standard Apple Disk Drive to store 1.5 megabytes of information on the ordinary 5 1/4 disk as well as providing 2 additional tracks for future audio and video recording facilities that they are now developing.

The developers of this unique British Product have been able to go one better than the Video recorder and produced a revolving multi-head disk drive head that allows twice the contact with the disk per revolution and 5 times the contact area on the revolving head as the normal flat head.

This is the secret to this remarkable product allowing 10 times the normal storage to be made.

It is the contact with the disk by the revolving head that causes a reverse motion to be transfered to the head. Combine this with the 120 deg angle of the head allowing double the contact time and you have a product that is not only more efficient but also pushes any dirt or grease on the disk to the outside - out of harms way.

It takes a lot of imagination to believe that you will now be able to store sound routines and sequential high-res screens as well as the required programming routines all on one disk ??

The well packaged and protected hardware comes with a very easily read manual and installation instructions that should be transparent for anybody with a bit of common sense.

To order this package at the intoductory price of £40.00 send your cheques (payable to APRILI BASUG OFFER)

To:-

1 Never Ave
Alaugh
CAUGHTOUT
SP0 0F

MacChat      April 1986
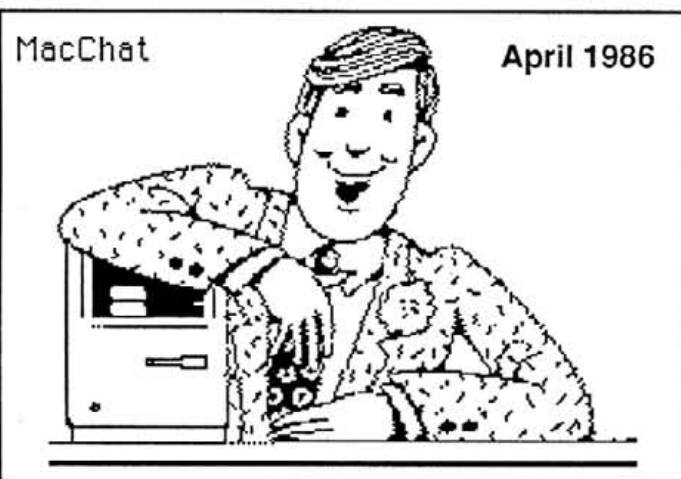
Welcome to the April MacChat - you will hopefully have already seen the review of PageMaker in the main section this month. In this MacChat we have some really good tips - some news of new software and hardware just announced in the states - some useful articles on Icons,MacPlus and the latest Mac Software Library.

I hope that this section will grow as the Mac membership grows - this has started to happen and you are all welcome to submit tips and article on anything that is Mac. I need to hear from members on the use they put their Mac to. Also any experiences with software or hardware would make interesting reading.

From the next issue a box of 3 1/2 inch disks will be awarded to the best Mac article as judged by a group of typical members.

I would like to hear from Mac members who would be interested in reviewing software, please let me know what field you are interested in. I hope that over the next few months we can start to generate a really USER FRIENDLY section of the journal.

Apple are expecting the upgrades and MacPlus 800K drives to be available in quantity by the time you read this. The problem would appear to be the normal one of demand out stripping supply.

The Macintosh is making headway into both the Education and Business markets - we are lead to believe from several sources that the Macintosh has finally been seen in the right light. In the U.S.A. several large Banks have ordered thousands of machines and Universities now demand that students purchase a Macintosh on entry.

Apple had all the big guns aimed at the International AUC Conference held in Cambridge last week. Speakers who attended this high profile conference included everyone who is anyone in the Apple Management and many Educational experts from all over the world. We were invited and a full report will appear in the June issue.

The Education side of the Macintosh has produced many results and the large establishments in the U.S.A. are now producing high quality software aimed directly at the Education market. After all Educational software written by the USER for particular subjects must rank over commercial software aimed at a much wider area.

The Business Market is slowly realising that the Macintosh can be a viable alternative to the IBM. Excel on the MacPlus is something else and you can now swap data with other systems. I saw a demo of Excel running a graphic clock from within its Macros. The speed of operation was outstanding.

Well I hope you get something out of this issue.

## An Icon Album
### by Shmuel Browns

I have gone through most of my disks and come up with the following MacPaint file of application icons. I submit these as the start of an icon album. You are encouraged to send in examples of icons from other applications not shown here or ones that you have created yourself. I will display them in a future edition of Hardcore.

Ideas of how such an album could best be organized are welcome! It would be useful, I think, to be able to associate the name of the program and its creator and type, e.g. MacWrite, MACA, APPL, with the icon.

From a design point of view, the icons developed by Apple are distinctive and clever - it is a standard we should try to match. This article will set out how you can modify an icon or in fact, create one for any application. Note that if the Finder does not have all the information it needs about the application's own icon it just displays the generic icon.

The first thing to do is to get a copy of ResEd, the Apple Resource Editor, available in the public domain. You will also need two other programs: i) one that lets you set the creator field and bundle bit of a file (one of the desk accessories SetFile or DAFile will do nicely), and ii) one that will delete the invisible file DeskTop (PurgeIcons, DAFile, Extras, etc.). Ask your friends, dealer, user group or check the MacTel bulletin board for these programs. If the program is distributed on the honour system please support the person who wrote it.



ICON LIBRARY

## Your Own Icons
### by Shmuel Browns

Create a disk with the Finder, System file containing the desk accessories, ResEd and the application you want to create an icon for; this is for safety as ResEd is still in pre-release form and you will be working with the internal representations of files and resources. As you can see in the screen dumps, I set this up as a ramdisk.

#### Modifying an Application's Icon

You are now ready to begin. As a simple example we will modify the Minifinder's icon, normally the System icon, to make it smaller. Double clicking on ResEd's icon will start the application and open a window for each disk listing its files. You can now edit the resource by opening the file (double click on MiniFinder). This will display its resources in a window of the same name - you will be changing the resource ICN# which contains the image.

Icons play an important part in dressing up the desktop and hence making the Macintosh easier to use. An icon is simply a 32 by 32 bit graphic image that represents an object, usually a file. Because icons present a visual image, they can convey a lot of information and are independent of language. I have always been interested in graphic design as a sideline and so notice (sometimes with amusement) the icons people have created for their applications.

Double click on ICN# to get a Fat Bits-like view. It may be easier to paste in a image that is similar to what you want, in this case the icon from ResEd will do. When you have edited the image to your satisfaction, close the windows one by one until you get the save dialog box, answer YES and you are done. Before exiting from ResEd go to the Apple menu and select the desk accessory that you installed that will let you delete the invisible DeskTop file. This is necessary so that the Finder is forced to rebuild the DeskTop and so will find the new icon. Exit ResEd and you will see the result.

interior of the shape. In the example of the ram I picked out some of the bits around the legs for clarity. Use the four actual size icons at the bottom of the window to see how your icon will look on a white background and the desktop's background (icon 1 and 3) and when selected (icon 2 and 4). When you are happy with how it looks close the windows to get back to the RamDisk window. You now have to set up information to tell the Finder that there is an icon for the application. Create a new type FREF (file reference) and specify type APPL and local ID of zero. Leave the fileName field blank, it is used if some other file must accompany the application when it is copied, for example, a file of names and telephone numbers for a phone book. The last step, to tie together the resources you have created, is to create the bundle resource, BNDL. Open the resources for ResEd, open the BNDL and copy it to the clipboard. Get back to the RamDisk window, create a new BNDL and paste from the clipboard. Then open it and edit the OwnerName field to change RSED to RAMD; the other fields have been set up to match. Close the windows and answer YES to whether the changes should be saved and you are done. Remember to delete the invisible DeskTop file before exiting or your new icon will not be displayed. Quit the resource editor and enjoy your creation.

I would appreciate feedback about this article - it will give me the impetus to write another. I am thinking about looking at some tools that are helpful in transferring graphic images and how to add icons to the menu bar. Other suggestions or questions are welcome. I can be reached on (01) 794-3313.

## Creating an Icon for an Application

Creating a unique icon from scratch for an application is similar but there are a few more things to take care of. Start with ResEd but before you begin editing resources use one of the desk accessories to set the bundle bit and creator fields for the application. In the example I have used DAFile, clicked on the File Info button to get the dialog box, set BUN, given a creator name of RAMD and updated the file. Checking with File Info again will show that the ???? and Flags fields on line one have been changed. You can now start editing the resource by opening the file (double click on RamDisk). This will display the resources that belong to RamDisk in a window of the same name - you will be adding the necessary resources (RAMD, ICN#, FREF and BNDL) in this window. The first thing is to set the name within ResEd. Select New under the File menu and enter RAMD in the textbox. By convention this should have ID=0 so select Get Info from the File menu and type 0. Click in the close box of each window to get back to the RamDisk window. You are now ready to create the icon. Again, select New but this time choose type ICN#. ResEd opens two new windows for the icon bit image and assigns an ID number. Selecting Get Info changes this to 128 for convenience. Create the icon's representation using the FatBits-like editor. Of course you can also paste an image from the clipboard which means that you can use all the tools of MacPaint to draw the icon and either copy it to the clipboard or save it in the Scrapbook. A good idea is to create an album of icons for your own use - you will find that you can often borrow graphics and ideas from other icons. When you are done pull down the ICN# menu and copy the image to the mask. You then have to shade in the

# MACINTOSH ERROR CODES - A LIST

Those funny error codes that come with a nice 'BOMB' are not that user friendly and should not appear at all if the program is well written - well if you really want to know what they are here is a list.

The codes are broken into seven types these include:
System Errors - Input/Output System Errors - File System Errors - Disk/Serial/Clock Errors - Scrap Manager Errors - Storage Allocation Errors - Resource Manager Errors.

## System Errors

ID01 Bus Error
ID02 Address Error
ID03 Illegal Instruction
ID04 Zero Divide
ID05 Range Check Error
ID06 Over Flow
ID07 Privilege Violation
ID08 Trace Mode Error
ID09 Line 1010 Trap
ID10 Line 1111 Trap [Breakpoint]
ID11 Hardware Exception Error
ID12 Unimplemented Core Routine
ID13 Uninstalled Interrupt
ID14 I/O Core Error
ID15 Segment Loader Error
ID16 Floating Point Error
ID17 Package 0 Not Present
ID18 Package 1 Not Present
ID19 Package 2 Not Present
ID20 Package 3 Not Present
ID21 Package 4 Not Present
ID22 Package 5 Not Present
ID23 Package 6 Not Present
ID24 Package 7 Not Present
ID25 Memory Full
ID26 Bad Program Launch
ID27 File System Map Trashed
ID28 Stack Ran Into Heap
ID29 ---- None -----
ID30 Disk Insertion Error
ID31 No Disk Insertion
ID32 ----->
ID36 Memory Manager Errors

## File System Errors

Error 33 Directory is Full
Error 34 Disk is Full
Error 35 Can't Locate Disk
Error 36 I/O Error
Error 38 File Not Open
Error 39 End of File
Error 40 Tried to position to before start of file
Error 41 Memory Full or File won't fit
Error 42 Too many Files Open
Error 43 File Not Found
Error 44 Diskette is write-protected
Error 45 File is Locked
Error 46 Diskette is Locked
Error 47 File is busy [deleted]
Error 48 Duplicate File Name [rename]

Error 49 File already Open
Error 50 Error in User Parameter List
Error 51 Refnum error
Error 52 Get File Position Error

## Input/Output System Error

Error 17 Control Error
Error 18 Status Error
Error 19 Read Error
Error 20 Write Error
Error 21 Bad Unit Error
Error 22 Unit Empty Error
Error 23 Open Error
Error 24 Close Error
Error 25 Tried to remove Open Driver
Error 26 Driver Install could not Find Driver in Resource
Error 27 I/O call aborted by KILL I/O
Error 28 Couldn't Read/Write/Control/ Status because drivers not opened
Error 53 Diskette not on Line
Error 54 Permission Error [an open file]
Error 55 Drive vol. already On Line
Error 56 No such Drive
Error 57 Not a Mac Disk
Error 58 Volume in question belongs to an external file system
Error 59 The old entry was deleted but could not be restored
Error 60 Bad Master Directory Block
Error 61 Write Permission Error

## Disk,Serial Ports, Clock Specific Errors.

Error 64 Driver not Installed
Error 65 Read/Write Request for an off line Drive
Error 66 Couldn't find 5 nibbles in 200 tries
Error 67 Couldn't find valid address mark
Error 68 Read Verify Compare Failed
Error 69
Error 70 Bad Address Mark
Error 71 Couldn't Find a Data Mark Header
Error 72 Bad Data Mark Checksum
Error 73 Bad Data Mark
Error 74 Write Underrun Occured
Error 75 Step Handshake Occured
Error 76 Track 0 detect doesn't change

Error 77 Unable to Initialize IWM
Error 78 Tried to Read second side of single sided disk
Error 79 Unable to correctly adjust Disk Speed
Error 80 Track Number wrong on Address Mark
Error 81 Sector Number never Found on Track
Error 85 Unable to read same Clock Value twice
Error 86 Time Written Did Not Verify
Error 87 Parameter Written Did Not Verify
Error 89 SCC Receive Error [Framing, Parity,OR]
Error 90 Bread Received [SCC]

## Scrap Manager Errors

Error 100 No Scrap Exsists
Error 102 No Object of that Type in Scrap

## Storage Allocation Errors

Error 108 Not Enough Room in Heap Zone
Error 109 Handle was Nil from Handle
Error 110 Address was Odd or Out of Range
Error 111 Which Zone failed
Error 112 Trying to Purge a Locked Block
Error 113 Address in Zone Check Failed
Error 114 Pointer Check Failed
Error 115 Block Check Failed
Error 116 Size Check Failed

## Resource Manager Errors

Error 192 Resource Not Found
Error 193 Resource File Not Found
Error 194 AddResource Failed
Error 195 AddReference Failed
Error 196 RmveResource Failed
Error 197 RmveReference Failed

Any additional Error Code information will be published as and when it is made available. If you have any information or comment please let us ALL know by sending it in.

London W4 5ER

Dear Mr Panks

Reading your rather sour note in last months Hardcore, I felt compelled to reply. I think the difference between Macusers and Apple users lies at the root of your problem.

Like myself, most Macusers, the ones I know at any rate, tend to use their machines to do work - writing books, radio plays and lecture notes in my case - and not as a hobby to play games or program.

Getting hold of important and useful information about the Macintosh such as that contained in the article on upgrading is why I joined BASUG and why I read Hardcore. Much of the rest of the magazine, I must confess, is totally meaningless to me.

I wish to continue to receive information about the latest Macintosh developments and I think for my £20 a year I am entitled to it from BASUG. Threats that if we don't contribute we will read nothing about Mac in BASUG seem to me to be counter-productive. I, for one, am not interested in making pretty patterns on my screen, nor, more to the point, have I any particular insights into what the Apple company are planning but I imagine you or some of your committee do and these should be passed onto your members otherwise I see no point in my continuing to belong to the organisation.

I would like your reassurance that you will continue to provide Macusers with the kind of information I have referred to above.

Yours sincerely,
Jack Gratus

[Reply]

Thank you for your letter, I have some comments to make which may clarify some points you make.

The difference between Mac Users and Apple Users are negligable, we all use our machines for different reasons and the Mac makes using a computer for producing work easier, however we all have problems in our use and the club was formed to help all Apple USERS overcome these problems.

As a self-help group we have to rely on members input, this comes in various forms - Hardcore relies on articles written by members on subjects that they are familiar with - this process is the only way the club will survive.

I intend to make sure that any information relating to Macintosh and any other Apple product is reported in Hardcore, Apple (UK) now supply us with all the press releases and we are also in contact with clubs in the USA. BASUG and HARDCORE are however independent of Apple and I would hate the club to become the mouthpiece of Apple and no more.

So we come back to the membership to make BASUG the APPLE USERS group in this country. The individual effort required is quite small - everyone uses the machine - whatever variety and through this use they find out information that would be helpful to other users. This is where HARDCORE comes in - it is the main communication of the group. By publishing information we can help make USING Apples more productive.

I would therefore hope that all MacUsers would contribute something. Writing about the software you use, or the application you use your machine for, or the problems that you are having.

I hope that you find that you can be a part of a very worthwhile group who are only interested in helping each other by whatever means.

I look forward to any comments from the membership.

Ed.

AST-4000 74 Meg Hard Drive with 60 Meg tape back-up. uses SCSI port and can be expanded to 370 Megabytes ! - Contact AST Research Inc, 2121 Alton Ave., Irving, CA 92714

MacBuffer 256K, 512K or I Meg Print Buffer which is claimed to reduce print times by 50-90%. From $299 - Contact Ergotron Inc. P.O.Box 17013, Minneapolis, MN55417.

Bernoulli Box 20+20, 20, 10+10, 10 Meg Hard Drives for SCSI Interface - From IOmega Corporation, 1821 W. 400 South, Roy, Utah 84067.

Hard Disk Prices are falling for the Mac - LoDown have 10 Meg ($795), 20 Meg ($995), 40 Meg ($1995) and 80 Meg ($3995) for SCSI Mac Plus supports HFS and boots direct - they also supply Tape Back-ups. Contact LoDown. P.O.Box 5146, Pleasanton, CA 94566

More Hard Disks from MDIdeas Inc, 1111 Triton Drive, Foster City, CA 94404. HD 20 ($1095) and HD30 ($1595)

Other Hardware next time - Lots of Hard Disks entering the Market and the price will drop further as the competition hots up.

## Software.

Adobe Systems Incorporated, 1870 Embarcadero, Palo Alto, CA 94303 offer twelve typeface packages with downloadable Laser fonts for any Postcript printer (inc Laserwriter), for the 512K and macPlus. $185 per single printer package.

Affinity Microsystems Ltd, 1050 Walnut Street, Suite 425, Boulder, CO 80302 announce TEMPO a Macro Builder for the Mac. Record any series of Mac Commands and play them back anytime you need them. (No price known)

Aldus Corporation, 616 1st Avenue, Seattle, WA 98104 announce PageMaker 1.2 ($495) This is enhanced to allow use with Laserwriter Plus and the new Adobe Downloadable fonts. (I hope BASUGs version will be upgraded) No price as yet for upgrades to version 1.1

Ann Arbor Softworks, Inc., 308 1/2 South State St., Ann Arbor, Michagan 48104 announced Fullpaint for use on a 512K Mac. DeLux version of MacPaint with plenty of extras including scroll bars to allow use of whole page.

Cognition Technology, 55 Wheeler St., Cambridge, MA 02138 announce MacSMARTS at Intro Price of $69.95 (Retail List Price $150) requires 512K or MacPlus and is a Integrated 'Artificial Intelligence' productivity tool for knowledge works !

Manhattan Graphics,163 Varick St, New York, NY. announce ReadySetGo version 2.1. New version supports MacPlus and enhanced features - scrolling, 40 page capacity and more versatile block manipulation.

ProVue Development Corporation, 222 22nd Street, Huntington Beach, CA 92648 announce Version 2.0d of OverVue. Ne things include no copy-protection and it now works with the HFS.

Silicon Beach Software Inc, P.O.Box 261430, San Diego, CA 92126 announce Silicon Press. Use to create Cards, labels of all types.

## Books.

From Microsoft Press - Excel in Business - Author Douglas Cobb ($22.95)

The Cobb Group - Understanding OverVue. (No author or price shown)

## MAC SNIPPETS

### gathered by Norah Arnold with the help of Apple (UK).

### External Video Monitors

The following two companies are able to offer you a modification to a Macintosh for an external video port. They recommend the use of a Conrac monitor ranging in sizes from 9" to 23".

Reflex Limited, Unit 3, Wellington Industrial Estate, Basingstoke Road, Spencerwood, Reading, RG7 1AW Telephone: 0734 884611

Telefusion PLC Communications Division, Unit 8, Wingates Industrial Park, Westhoughton, Bolton, Lancs. BL5 3XH Telephone: 0942 611717

### External Video Output

A source for an external video port for the Macintosh in the UK: Computers Unlimited, 246 Regents Park Road, London N3 3HP Telephone: 01 349 2395 This modification is not recommended by Apple Computer (UK) Limited and will invalidate any warrany claims.

### Identifying the revsion of the SYSTEM file.

A way to indentify which SYSTEM file you have is to open the file with ResEdit, locate the STR resources and open STR ID = 0. The system version and create date are printed in this resource.

### MacTerminal 2.0 with Mac Plus Keyboard

Some people have found that MacTerminal 2.0 seems to map the BREAK function to the ENTER key on the keypad of the new keyboard/keypad but the documentation on the disk does not say anything about this; nor does the spiral bound

The new FINDER 5,1 allows both mini icons and expanding windows using the little box on the right hand side of the window. And all that storage space what luxury !

```
                     macpaint
 5 items        553K in disk    227K available
 APPLICATION Folder      WRITE Folder
 SYSTEM Folder           PAINT Folder
            Switcher 4.4
               APPLICATION Folder
 2 items        553K in disk   227K available
  MacWrite 4.5
  MacPaint
               WRITE Folder
 4 items        553K in disk   227K available
        your own icons by s brown
```

MacTerminal manual. This can cause problems on systems that respond to BREAK and the VT100 kaypad sequences.

However, the Enter Key on the MacPlus Keypad in MacTerminal 2.0 is always Enter until the user presses other combinations of Keys:

```
Desired Function          Key Combinations

Enter                     Enter
Short Break               Option, Enter
Long Break                Option, Shift, Enter
Send Answer Back Msg.     Option, Command, Enter
```

Therefore, there should be no confusion or lose of function for data entry.

### NotePad Limits Revealed

Although the March issue of MacUser states that the number of characters per page to which the NotePad is limited is 255, in actual use, the limit is less than 248 per page, especially when using special characters like bullets and such. This means, of course, that the entire NotePad is limited to just under 2K.

### MacPlus (Mac+) Install Program: Updating HD20, Updating 800K drive

If you have a Fat Mac and find you are unable to use the Installer version 2.0 (on the Mac Plus System Tools Diskette) to update the drivers, finder, etc. on a HD20, and that upon selecting the HD20, the following error message is displayed: File System not found on System Tools for "LaserWriter to (v1.1)", "ImageWriter (v 2.1)" or "AppleTalk ImageWriter (v 2.1)", then you should drag a copy of the System Folder from the Tools Disk to update the HD20.

Similarly, if you find that you are unable to use the Mac Plus System Tools Diskette (the 800K disk) in, naturally, the 800K external drive and that when you startup the Installer, Resource error-43 opening script file "Mac Plus Update" on System Folder appears, then clicking on the option Cancel allows the Installer to complete its startup. The same message as in  1 appears when you select to update any volume. Do the same as for the first problem above, or configure a 400K floppy containing the Installer for use in the internal or external 400 or 800K drive.

### MacWrite 4.5:

On a 128K Macintosh MacWrite 4.5 may have 500 paragraphs, 2950 characters per paragraph,1 return per paragraph and 60 pages. On a 512K Macintosh or Macintosh XL MacWrite 4.5 may have 2047 paragraphs, 2950 characters per paragraph, 1 return per paragraph and 250 pages.

### The number of Fill Patterns available on a Macintosh.

The number of different fill patterns the Macintosh supports is immense. Since a fill pattern is specified by eight bytes (or sixty-four bits), the number of fill patterns equals two to the sixty-fourth power, or over sixteen billion mathematically unique patterns! ! !

## NEW DISKS FOR THE MACSIG LIBRARY.

### by the MacSig Librarian,
### Norah Arnold.

**MODULA-2 COMPILER FOR THE MACINTOSH.**

A version of Modula-2 is now available as a special item in the MacSig Library. It is possible to create stand-alone applications with this software. I have tested the system on a 512K Mac and found the compiler and linker to be reliable and their use fairly straightforward. The Modula-2 Library provides access to most functions of the Toolbox. Transcendental functions and REAL numbers are implemented. The Library also contains procedures for formatted input/output from the keyboard, to the screen and to files. A symbolic debugger comes with the system.

The Modula-2 system consists of five disks which are sold as a single item and cannot be ordered separately. The five disks are firstly, the Exec (boot) disk, which contains many files including sample programs, then the Compiler disk, the Linker disk, the Modula-Prolog and Debugger disk and lastly, the Documentation disk. The set of five disks is available to members for £20 inclusive.

Anyone buying this set might be interested in the new Prentice-Hall book, 'Macintosh Graphics in Modula-2' by Russell L Schnapp, although this book was intended for users of Modula-2 produced by Modular Corporation.

### NEW DISKS - 1, 22 and 23.

DISK 1 - RESOURCE EDITORS. The original 'Disk 1' has been withdrawn and the new Disk 1 now contains REdit 1.2 and the latest version of ResEdit.

DISK 22 - EDUCATION DISK. There are three sections to this disk, which originated from the American University Consortium. The first section contains the Flashcard program, documentation and example flashcard sequences. Second comes the Grades program also with documentation, and thirdly, there is the Drill program together with information on creating your own drill sequence and sample drill files.

DISK 23 - ATLAS/SOCIAL STATISTICS. There are two major items on this disk, both of which originated from the American University Consortium. The Atlas program enables you to build your own database of geographical information and employs a 'zoom in' technique. The skeleton database provided concerns Europe. The Social Statistics program enables calculations to be made on sample information concerning Group Influence, Marriage Roles, Small Groups, Social Norms and Social Deviance.

### UPDATES

Disk 20 contains Red Ryder 7.0 but is otherwise unchanged.
Disk 21 now contains Mock Accessories 4.2 and Switcher 4.4

THANKS to Ron Brown, Sak Wathanasin and Peter Trinder for donations to the MacSig Library.

## Upgrading your Macintosh
## by Shmuel Browns

If you have been using a basic Macintosh (128K memory and the one internal disk drive) for awhile you may have thought about upgrading your machine. Times have changed since Apple brought out the Mac - the cost of 256K RAM chips has dropped considerably. Disk drives with twice the capacity and hard disks with 10 megabytes and up are available and affordable. What you decide depends very much on how you use your Mac. This article looks at adding an external drive, additional memory and/or a hard disk.

As soon as you add a second drive copying of files or entire disks is much simpler and can be done with a lot less swapping of disks. In fact you will find that the way you organise your disks will change, freeing up a lot of space (about 150K on each disk). Rather than having the Finder and System file on each one (to cut down on swaps) you will set up a number of application disks and corresponding "data" disks, ones containing the files you create. You still have the problem that the drives are slow - it takes the same time to load applications and exit to the Finder and even longer to redraw the desktop (as this is done sequentially for the internal drive and then the external one).

A second drive can certainly be handy and in fact some software packages (Jazz, Omnis, etc.) require one. But then some software either requires 512K memory (Excel, ReadySetGo, Time Base, etc.) or is available in two versions (for example, Think Tank) with the full-fledged version requiring 512K. If you do not have the additional memory, you simply cannot run these programs. Figures from Apple show that 128K owners are in the minority (60% of Macintoshes have 512K of memory and this does not take into account people who originally bought 128K machines and have had non-Apple memory upgrades). Conceivably, software developers, as they begin to write more sophisticated applications, may view 512K as standard.

If you do have the extra memory, you can configure about 350K of it as a ramdisk (setting aside memory that looks like a separate disk to the system). Programs to create a ramdisk are available in the public domain (or at nominal cost). You then copy the startup disk to the ramdisk and put the other in the internal drive. The result is that instead of two slow, 400K disks you have one that operates at memory speed (the ramdisk is volatile so it is safest not to store your data there, at least not for any length of time). Redrawing the desktop is a lot faster too.

A ramdisk really improves the performance of the Mac for some tasks. Make up bootable disks by copying the ramdisk program, the Finder, appropriate System file and application(s) you want to use to disk. When you power up your Mac, create the ramdisk (this can be done automatically by making the ramdisk program the startup application). I often find that for most of a session I am using only the ramdisk and so have very quick, quiet operation. You can reorganise your disks into two groups (just as if you had an external drive): bootable ones and "data" disks. Even copying files or entire disks can usually be done with one disk swap via the ramdisk, though it takes a little longer than using a second drive.

There are other advantages to having the additional memory. The Finder has more memory to use when copying files and can usually do it in one swap. A sector/bit copy program should be able to copy an entire disk with one swap. You can run Switcher, enabling you to get almost instantaneous switching between two or more applications. This lets you put together your own integrated packages, for example MacPaint with MacDraw or MacWrite, or MultiPlan with Chart. Another choice is to try TurboCharger, a commercial program that tries to buffer often used code and data in memory. All in all, once you have tried a Fat Mac I think that you will feel that this is the way the Mac was designed to perform.

Interestingly, with the price of memory chips dropping, an upgrade can cost you less than a second disk drive - it is very good value for the money. Even the official Apple upgrade has come down from £800. to about £400. Many third parties offer memory upgrades. Check whether the upgrade is done by swapping the 64K chips for 256K ones (the way the Apple one is done) or by mounting another board with 384K above the motherboard as this may affect later choices.

How does it feel having used a Fat Mac for awhile? I am really happy with the way my Mac performs now but sometimes . . .
I admit I have started daydreaming about running more applications under Switcher and being able to have them access a ramdisk. As I accumulate more software, 400K capacity disks are not nearly enough. I have boxes of disks and it is becoming increasingly difficult to find a particular file quickly.

Here are my initial thoughts on where to go from here. Memory upgrades are now offered to boost your Mac to 1, 2 or 4 megabytes. Again it is important to find out how this is being done as it may affect your other options. When upgrading to one megabyte (or more), the memory will usually be divided into two sections with the second 512K only available as a ramdisk or separate heap (?!) - since the Mac screen sits at the top of the 512K memory. A ROM upgrade is required as well to make the 1024K of memory contiguous (this may be included in the ROM upgrade rumoured from Apple in early 1986). Some upgrades get around the problem of segmenting memory by disabling all memory on the original motherboard. This seems less than optimum if you already have a 512K Mac. If the daughter memory board is mounted above the motherboard, you cannot add memory and also mount a Hyperdrive (an internal 10-20M hard disk). Some upgrades add 1 or 2 additional boards that mount along the side of the chassis.

One possibility to alleviate the storage problem is a double-sided drive, 800K on a disk. External drives for the Mac that can store 800K on two sides of a disk are available from third parties. Rumour has it that Apple will be announcing a new Mac that will have an internal 800K drive the third week of January and that present Mac owners will be able to upgrade their existing machines. Presumably any double-sided drive will be able to read and write on single-sided disks as well. I wonder whether it is faster. This gives you a new choice: replace the 400K internal drive or get an 800K external drive. Personally I am not that keen on a second drive (as I outlined above).

The best solution seems to be a hard disk but the issue is complex. Basically there are two options: mount a hard disk inside the Mac case (the only one I know of is the Hyperdrive) connected directly via a parallel controller chip to the motherboard or get an external hard disk that connects via one of the serial ports. Hard disks are still expensive, £1800.

and up. Personally, I am not convinced that any of the hard disks currently available is the answer for the individual user. Here are some ideas to think about.

The Hyperdrive solution is elegant - it gives fast response, 10-20M capacity with no additional clutter and lets you boot from the hard disk. From what I've read, it also comes with a good set of utilities that make it easy to create and delete volumes, assign passwords, do backups, etc. Just remember that the advantage of the disk in the box is a disadvantage if you have any hardware problems or prefer to share the hard disk with other Macs.

External hard disks come in a variety of shapes and sizes (5-45M capacity) each with its own idiosyncracies. They are inherently slower than the Hyperdrive (although I have heard that the Apple 20M disk will be as fast with the new release of the Finder and ROMs), must be booted via floppy and take up a serial port (though some provide a replacement port on their box). Some drives can be partitioned to hold files from the Mac and other PCs, for example, the Apple II series or IBM PCs giving a limited kind of sharing. Personally I feel that computer peripherals like hard disks should be connected via a network and shared among users. We are just beginning to see hardware and software that will let you do it; the cost is still high.

My hunch right now is to wait a little. Prices for hard disks should drop further as the technology matures. Optical disks are being developed and may provide large storage capacity at much lower cost. Also, I have heard that a new Mac based on a Motorola 68020 chip will be coming soon.

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Eds Note:
This article just missed the last issue and therefore the MacPlus was not announced - I am sure that many of the comments have now been answered by Apple.

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# The Register

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